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DESERT CALENDAR

Every weekend in April—Artists and Craftsmen exhibiting at Palm Desert Art Gallery, in Desert Magazine Pueblo, Palm Desert, California.

April 1-2 — Mesa Jaycees Rawhide Roundup, Civic Center, Mesa, Ariz.

April 1-3—Fiesta Rodeo, Truth or Consequences, New Mexico.

April 2—Annual Jeep Cavalcade from Hemet, California (8 a.m.) to sand dunes of Borrego; all day trip for 4 WD cars only.

April 2-3—Arabian Horse Show, Polo Grounds, Palm Springs, California.

April 3—Desert Sun Ranchers Rodeo, Remuda, Wickenburg, Arizona.

April 3 — Desert Shores Outboard Water Skiing Regatta, Fish Springs, Salton Sea, California.

April 4-8 — Desert Caballeros Ride, Round-Up Club, Wickenburg, Ariz.

April 8 — Penitente Passion Play, Talpa Chapel, near Taos, N. M.

April 9-10 — Sierra Club's Desert Peaks Hike and Backpack Trip to Keynote Peak and New York Butte, meeting in Lone Pine, California.

April 10—Easter Sunrise Services at: Shrine of Ages, South Rim, Grand Canyon National Park, Arizona. Sand Dunes, Death Valley, California, On horseback, Wickenburg, Arizona. The Cross-on-the-Mesa, 2 miles west of Taos, New Mexico. Desert Christ Park, Yucca Valley, California.

April 10-30 — Spring Art Exhibit, Harwood Foundation Galleries, Taos, New Mexico.

April 11-12 — Two-day bus trip to Grand Canyon, by Don's Club of Phoenix, Arizona.

April 13-14—Fiesta de las Flores, Tucson, Arizona. Festival Society.

April 13-15—Trans-Mississippi Seniors Golf Tournament, Thunderbird Club, Palm Springs, California.

April 13-17 — Yuma County Fair, Arizona.

April 13-26—Festival Art Show, Fine Arts Gallery, Tucson, Arizona.

April 14-17 — 19th Annual Desert Circus, Palm Springs, California.

April 15—San Xavier Mission Fiesta, Tucson, Arizona.

April 15-17 — Indian Ceremonials, Phoenix, Arizona.

April 15-17—Tucson, Arizona. Live-stock Show, Polo Grounds.

April 16 — Mexican Fiesta, Tucson, Arizona.

April 16-17—Sierra Club's Hike to Santa Rosa and Toro Peaks, overlooking Coachella Valley, Calif.

April 16-17 — 18th Annual Mineral and Gem Exhibit of Southwest Mineralogists, Inc., Palestine Masonic Temple, Los Angeles, Calif.

April 17—Desert Sun Ranchers Rodeo at Rancho de Los Caballeros, Wickenburg, Arizona.

April 17—Los Angeles Boat and Ski Club Race at Desert Shores, Fish Springs, Salton Sea, California.

April 22-23—All Indian Show, International Relations Club, Flagstaff.

April 23-24—Ramona Pageant, Hemet, California (also in May).

April 23-24 — Sierra Club's Desert Peaks Hike and Bus Trip, Meeting at Pasadena, California.

April 23-24 — Southern Nevada Flower Show, Recreation Center, Las Vegas, Nevada.



Volume 18

APRIL, 1955

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Devil's Cactus Garden. Barrel cactus with Mt. San Jacinto, California, in background. Photo by HUBERT A. LOWMAN, Covina, California.

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Rochester Basin in the Chocolate Mountains, southeast of Picacho. The road at this point—rough but solid—follows the tuff bottom of a broad wash. Earl Kerr's nodule beds lie in the low hills, center, which also carry opalite, chalcedony and agate.

Doodlebug Trail into Agateland

By HAROLD O. WEIGHT
Photographs by the author
Map by Norton Allen

LUCILE AND I had no intention of hunting rocks when we visited southeastern Imperial County in mid-June, 1949. We just wanted to photograph colorful Picacho Wash while smoke trees and palo verdes were blooming together, and relax a day or two at Old Picacho, swapping desert yarns with Ed Rochester and Earl Kerr, then the ghost town's leading citizens.

Besides knowing the history and legends of that fascinating region, Ed and Earl were well-acquainted with some of its choice rock fields. It was Earl who told us about the big agate nodule beds in Rochester Basin, ten miles to the southeast.

Ed Rochester had first noted the nodules, geodes, opalite and chalcedony while prospecting the basin more

than 30 years before. But Ed was after commercial ores; these were simply curiosities. Later when Earl became interested in cutting and polishing, Ed told him about the basin. At first they hiked three rugged miles in from Pebble Mountain, on the Picacho-Winterhaven road, and packed the rocks out on their backs. Then they found they could drive to within one and a half miles of the field by circling down by Winterhaven and back up the Colorado River to near Imperial Dam.

Earl's description was so enticing we decided that a four mile hot weather hike, planned properly, wouldn't be so bad—especially since most of it, from the river side, would be up a deep and presumably shady arroyo. Ed and Earl declined invitations to accompany us to the sun-seared area.

It's no country to enter in the heat of summer, but nodules, geodes, chalcedony, and opalite are scattered—often thickly—along a Southern California path blazed by an old miner with a witch-stick in the 1920s—it's the Doodlebug Trail.

They were shaking their heads when we drove away late the next afternoon.

Everything went according to plan—at first. We camped at the edge of the great arroyo, where an old Indian trail was visible. At sunrise we were on our way with two canteens of water, expecting to be back with our nodules by ten.

We will always remember that expedition. The arroyo was a beautiful sheer-walled canyon where the desert trees grew together—palo verde, smoke tree, ironwood, catsclaw, chilopsis. Blue shadows drifted among the smoke trees, and big ironwoods and palo verdes which fringed the canyon cast solid black shade the width of the wash. Great mounds of Chuckawallas' Delight were along the way, and clumps of Canyon Broom.

Distinct, purposeful coyote pad-marks followed the shadow of a wall and the winding track of a large snake crossed a sandy stretch. Scattered

everywhere were the lesser trails of the rodent tribes. Horned lizards of nursery school age scrambled under rocks, and once two doves bolted past with a whirl of strong wings.

Clean, coarsely sandy stretches of stream-bed were broken by sections strewn with boulders of pink and white tuff, black lava, and bright rhyolites. After about a mile the canyon walls, 30 feet high in places, drew closer together. At times the gorge was almost choked with rock, and once we had to detour on a narrow shelf at the canyon edge. Walls of gravel and earth and boulders gave way to conglomerate, the conglomerate to white, then purplish, rust and cream tuffs. In the white tuff we had to climb the canyon walls to by-pass great scoured-out tanks or potholes.

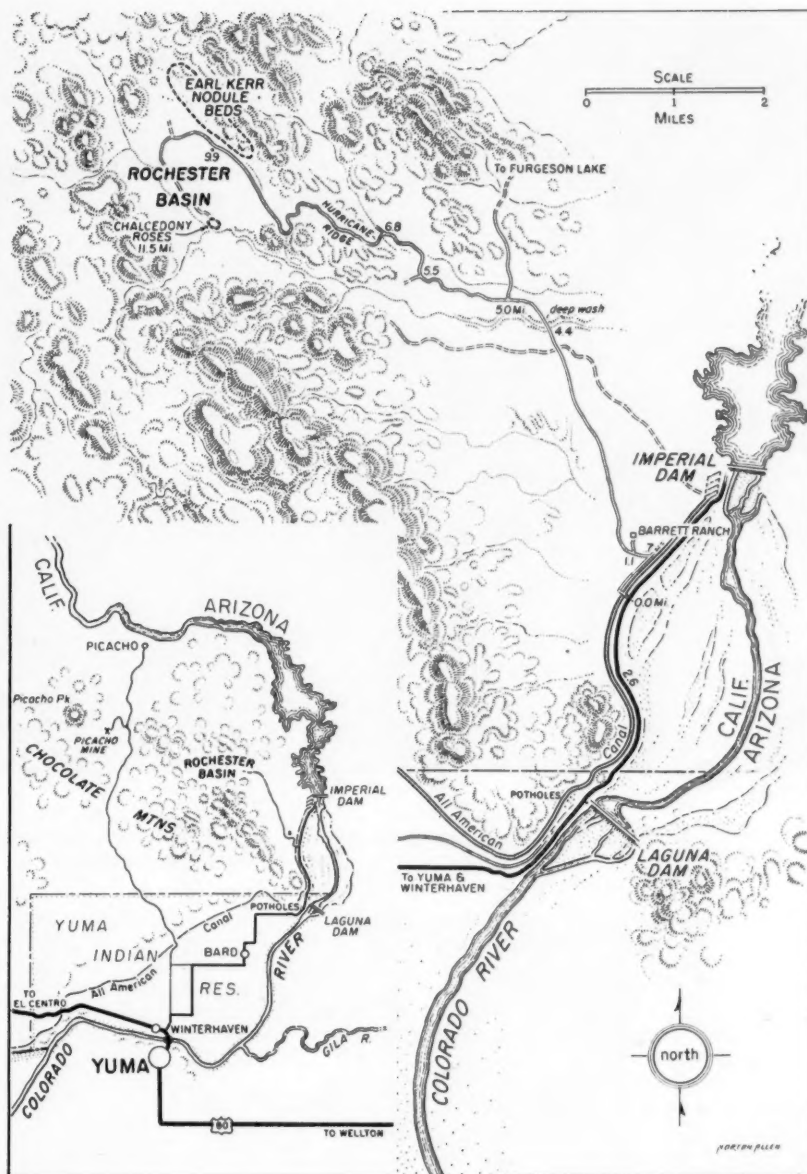
Soon after starting we saw water-worn bits of chalcedony and the amount increased as we went on. Lucile found pieces of carnelian and, later, a cluster of quartz crystals. But side trips out of the wash at likely spots failed to reveal any of these materials in place. Our directions called for taking the right-hand branch, but the arroyo proved to have many branches. By nine o'clock we had hiked much farther than one and a half miles, and more than half our water and our allotted time were gone. The air was no longer cool.

Reluctantly we turned back. The sunlight now carried a sting and we slipped from shade to shade, the spots growing smaller and thinner as the day advanced. In an hour the sun was burning and Lucile described a strange drawing sensation at the base of her skull. We dampened handkerchiefs and covered our necks with them.

There was no cause to worry yet. We had water and were less than a mile from the car. But we were learning the inadvisability of scouting for an unknown rock field in desert summer heat. And then, as we crossed a boulder-choked curve of the canyon, a rock turned and I fell, twisting my ankle. Fortunately it was a sprain rather than a break, but the ankle immediately swelled and I could not put my weight on it.

I believe treatment for sprains calls for cold compresses. We didn't have any. But we had unlimited hot compresses—small water-worn boulders in the wash, almost too hot to handle. After a few hot rock applications I was able to hobble along. Shortly before one p.m. we reached the car.

We did not again attempt to visit Rochester Basin until last spring, when Ed Rochester told us there was now a "sort of jeep trail" right to the nodule beds, if we were interested. We

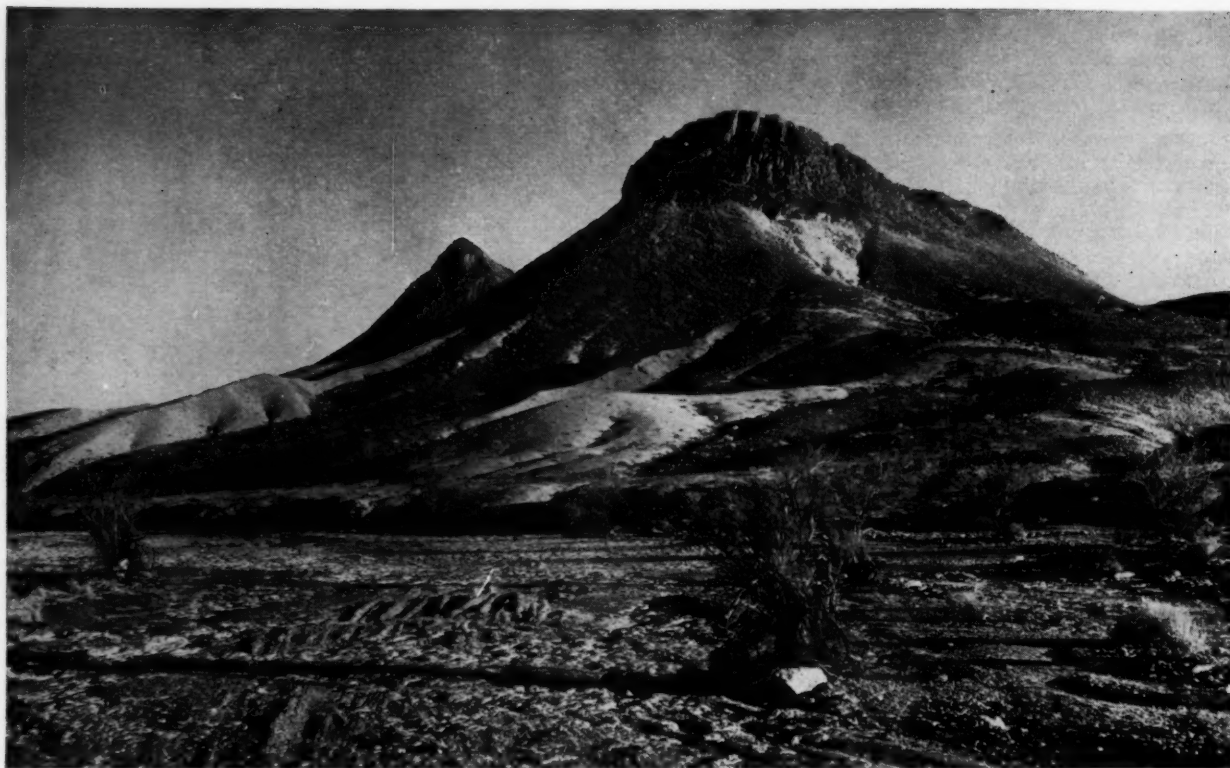


started from Wintehaven, where Ed Rochester was now residing, one mid-afternoon, taking the Laguna-Imperial Dam road through the Quechan Indian Reservation.

On the way Ed explained that the jeep trail had started as a prospector's route in the 1920s when a man was combing this country with a doodle-bug, as oldtimers called all mineral locating devices. On the western edge of Rochester Basin, across the big wash and against the reddish mountains, the doodle-bug had wiggled itself into hysteria. It was no more than an Indian trail then, but the man brought his team and wagon through from the river, creating every foot of road as he came. At the place where the doodle-bug had been so agitated he dug a

deep shaft—but the rock was barren. The man took his doodle-bug, team and wagon and went away. Sections of the road he had made departed also, with the first cloudburst. Then it had remained impassable until recently when G. E. Barrett, of Barrett's Guest Ranch, just below Imperial Dam, reopened it with a jeep.

Another road had been opened to Ferguson Lake since we were last along the river. It left the Imperial Dam road two and six tenths miles above Laguna Dam. Signposted for Barrett's Ranch and Ferguson Lake, it crossed the All-American Canal, followed the canal road north for seven-tenths of a mile, then headed west to circle to the south and west of Barrett's Ranch. We took this road.



Auto trail into Rochester Basin enters it by dropping into this wash, floored with solid tuff, at the southwestern edge of the big basin. Spectacular red-topped butte, is a landmark of the basin.

Near the ranch we saw a small group of saguaros. These Arizona escapees were not as large or healthy as most of their brethren across the Colorado. Few are found in California, and their scarcity may explain why some were overly-punctured with nest cavities of cactus woodpeckers—which often are appropriated by little Johnny owls.

It must have taken more than the river to halt the spread of the saguaro from Arizona into Southern California. Else, how did the few in California today make their crossing? Ed Rochester had a theory that before the present stream, a much wider body of water kept them out of California.

From descriptions left by Spanish explorers, Laguna Salada was connected to the Gulf and possibly to a lake in the Colorado Desert. A great bay extended up the present Colorado River bed, at least as recently as 1604, when Onate reached the Gulf. This wider body of water could have successfully prevented the crossing of the saguaro—besides keeping land otherwise favorable to them under water—until such time as the water receded to its present river course.

The Ferguson Lake road was deep in fine dust which puffed to enormous clouds as wheels dropped into hidden

chuck holes. In minutes the car was coated with yellow powder. The road roller-coasted through a lower reach of the great arroyo up which we had hiked nearly five years before. Then there was more dust. It was a relief to leave the new road for an indistinct left track across a dark mesa tongue. After two crossings of a rough wash, the trail twisted up to a hogback.

This was the section which Barrett has named Hurricane Ridge. Ed Rochester, who traveled it first in a little open jeep during a gale, thinks it well named. The trail straddles the ridge for more than a mile. It is not dangerous for an experienced driver whose car has plenty of clearance. But, so far as I know, it has been traveled only by four-wheel-drive vehicles and pickup trucks. We went into four-wheel at the wash crossing at the foot of the ridge and used it several times before we dropped into the basin. On the return, with the trail more familiar, we did not require it. Not having tried the route with a passenger car, I cannot recommend their use. Some work in the wash and clearing of boulders on the ridge would certainly be necessary with a low clearance car.

The trail dropped from the ridge into a remarkable flat-bottomed wash

with a "wobble and a twist," as Ed put it. The wash, floored with solid tuff, drains Earl Kerr's nodule beds. We followed up its bottom and left bank for about a mile, crossed it again and stopped at the base of a mass of northwest-southeast trending hills. They were largely dark green in color, but with interruptions of dark gold and white. Toward the east and the north they became more abrupt, rising to harsh, reddish buttes.

Those we faced were smoothly rounded, of soft disintegrating volcanic rock and the main beds were located in them, Ed told us. We had noticed numerous pieces of cutting rock along the trail, since entering the basin, but among the round hills nodules and botryoidal chalcedony were scattered everywhere—in places so thickly that they made up most of the surface. There was not much color and many were of solid quartz—crystals grown together—and uninteresting to rock cutters. In a few minutes we had collected numerous specimens of banded and patterned agate, and a couple of crystal-lined geodes. Most of the nodules were small—up to egg size. But some were as big as baseballs and there were some huge ones.

It had taken us two and a half hours

to reach the field. Ed was due in Winterhaven that night, so we soon turned back. When Lucile and I returned the next day, we spent the morning exploring for a route to the nodule beds without crossing Hurricane Ridge. We couldn't come closer, by our estimates, than a mile; and the ridge didn't seem so bad the second time.

In Rochester Basin again, we followed the old doodlebug road to the western edge of the basin where we investigated a few low rises at the big wash's edge. The northeast slopes of some were thickly scattered with exquisite tiny chalcedony roses, mostly dark sard or honey, with a little clear and carnelian. For Lucile this was the high point of the trip. She sat right down (you can see them better at that angle than from eye level) and started picking them up.

"Show intelligent discrimination," she kept urging herself. "You can't take them all!" Then she looked up at me and sighed, "I've never been confronted with so many decisions!"

I hiked over the little hills finding roses and botryoidal chalcedony and a few nodules, and then into the great wash. Almost immediately I was sure it was the branch of the arroyo we had followed on that hot summer hike. We

had been in the wrong branch for the nodule beds, but had turned back a few hundred yards from the hills with rock roses.

When I returned to the car, Lucile had made her decisions and had a beautiful collection of miniature roses. We located a perfect camp site for the night. It was a level, clean-floored little flat half surrounded by miniature buttes, but with a splendid view eastward over jumbled washes and hills. With camp established, I took my sack and canteen and set out on a short exploration.

It lasted three hours and I soon found myself facing Lucile's problem of decisions. The pieces I was finding were so big I could carry very few. Most remarkable were huge clam-shaped nodules of colorfully-patterned opalite — similar to pastelite — mixed with quartz and sometimes agate. There were few of them, but some were large enough that each would make a load. Then there were irregular masses of opalite which would cut into large, showy cabochons, and vein agate. Here and there were lines of small agate and quartz nodules. It was a case of emptying my sack every half mile or so, for re-sorting.

Wherever I went in that rugged ter-

rain, I crossed the tracks of little jeeps. Because I was on foot, I found material they had missed. But the quantity of ruthlessly broken material lying everywhere was incredible, considering the obviously small number of rock hunters who had been there. It reminded me forcibly of the fallacy of the argument often advanced that keeping a field secret preserves it, while writing it up means its destruction.

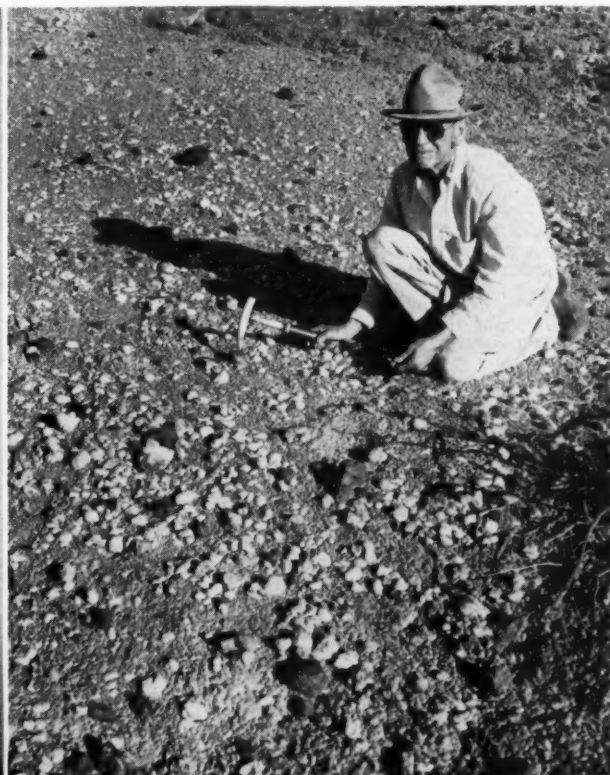
This area had not been publicized, though word about it had gotten out to the more eager collectors—as it always does. An undetermined but small number of individuals and one or two clubs are all who have collected in a large field. Yet there were more senselessly smashed specimens here than in many fields I have revisited years after I have described them for *Desert Magazine* and after they have been hunted over by hundreds of real rockhounds and collecting groups.

I am coming to believe that publicizing a field may actually help to control the depredations of the small percentage of rockhogs among rockhounds. Even these "fast rock" boys, seeking to strip the cream for themselves no matter how much is ruined for all who follow, do not want to be caught at their wrecking. In the end it boils

Uncut, unpolished specimen of Rochester Basin opalite—similar in appearance to pastelite—of gray, brown, white and flesh colors.



Ed Rochester on one of the "blowouts" of nodules in the Kerr nodule beds. Most of the rocks strewn on the ground in the picture are nodules or agate.



down to the fact that selfishness and greed will show as quickly and unhealthily in a rock field as in home or business.

When I returned to camp in the gathering dark, I built a rock fireplace against a little vertical ledge and put a grill across. We had several pieces of dead ironwood, picked up during our wanderings, and soon had coffee boiling and supper heating. The coals burned with a companionable glow all night.

The stars gave a surprising light. Many unaccustomed ones shone so brightly we scarcely were able to find the familiar pattern of the Big Dipper or identify Polaris. We lay on our bed rolls long after we should have slept, reluctant to miss even a minute of the wonder of the heavens.

I thought of the doodlebug prospector, who must have seen many nights like this while he wrought his road, where never a road had run before. Was he really squandering his time out here with his mechanical rainbown-chaser? Were they wasted, those long days of hard labor and nights of perfect rest with a dream to start tomorrow, in the beauty of the desert dawn? I hope he didn't feel so, when his shaft cut only barren rock. I doubt that he did.

ROCHESTER BASIN ROAD LOG

Miles

- 00.0 Junction of Ferguson Lake road with Laguna Dam-Imperial Dam highway, at 2.6 miles north of Laguna Dam, approximately 17 miles from Winterhaven. Turn left on Ferguson Lake road, cross All-American Canal, turn right on canal road.
- 00.7 Turn left from canal road, following signposted Barrett Ranch-Ferguson Lake road.
- 01.1 Right branch to Barrett Ranch. Keep left, swinging to west of ranch and heading north.
- 04.4 Cross Deep Wash.
- 05.0 Leave Ferguson Lake road where it curves north taking faint westerly branch over dark mesa. Old Indian trail may be seen, roughly paralleling road.
- 05.9 Road Y. Take right branch, which heads into rough wash, winds down it a way, then climbs out on mesa.
- 06.8 Road Y. Take sharp left curve, which drops into wash, crosses (Danger of becoming stuck in wash here) and twists up onto Hurricane Ridge.
- 08.8 Wind from ridge into flat bottomed wash, follow up wash (right) about one-half mile, climb stiff pitch out of wash and follow left bank to
- 09.9 Easy access to Earl Kerr Nodule Beds, in low rolling hills across wash.
- 11.5 Chalcedony roses on low hills at edge of Deep Wash, near western side of basin.

MAPS FOR ROCKHOUNDS

For many years Desert Magazine's field reporters have been seeking out new fields where the rock and gem collecting fraternity may find new cabinet and cutting material. Each field trip report includes a map showing how to reach the location. Many of these back issues with maps are still available and you may buy them at a special rate. Here is the latest list:

MAPS FOR THE ROCK HUNTER . . .

May '46—Green jasper, near Lake Mead, Nevada. MAP
 Jun. '46—Agate, chalcedony, etc., Arizona. MAP
 Jul. '46—Minerals at Calico. MAP
 Aug. '46—Fossils While You Wait. MAP
 May '49—Geodes, chalcedony, Southern Arizona. MAP
 Jul. '49—Sandspikes on the border. MAP
 Aug. '49—Uranium Strike in Petrified Wood. MAP
 Sep. '49—Agate, jasper, on Devil's Highway. MAP
 Oct. '49—Fossils in Coyote Mountain. MAP
 Apr. '50—Dinosaur Bones in Colorado. MAP
 May '50—Wonderstones in Nevada. MAP
 Jul. '50—Agate Hill in Utah. MAP
 Aug. '50—Gem Field Near 29 Palms. MAP
 Sep. '50—Apache Tears in Nevada. MAP
 Oct. '50—Crystal Calcite in California. MAP
 Nov. '50—Agate Hunters in California. MAP
 Dec. '50—Gold on Garces' Trail. MAP
 Jan. '51—Nevada Invited the Rockhounds. MAP
 Apr. '51—Geodes on an Old Silver Trail. MAP
 Jun. '51—Rocks of the Ages—In Utah. MAP
 Jul. '51—On Black Rock Desert Trails. MAP
 Aug. '51—Where Turquoise Was Mined. MAP
 Sep. '51—Agate Trail in Nevada. MAP
 Oct. '51—Geodes in Lizard Gulch. MAP
 Nov. '51—Cave of the Crystal Snowbanks. MAP
 Dec. '51—Opalite on the Road to Cibola. MAP
 Jan. '52—Fossil Leaves of an Ancient Nevada Forest. MAP
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 May '52—Beauty in Those Ancient Pebbles. MAP
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Desert
MAGAZINE

PALM DESERT, CALIFORNIA



Lost Hardin Silver

Mystery or Hoax?

It rose from the desert floor like a broken fang — the ruins of a 90-year-old silver ore mill at Hardin City ghost town, Nevada.

By NELL MURBARGER

Photos by the author

Map by Norton Allen

WHEN LONG shadows creep through the canyons, and the night grows dim and large, desert men press closer to dying campfires and talk seems drawn to lost mines and buried treasure. Up in northwestern Nevada, the tale men tell is that of the Lost Hardin Silver.

Three generations of men have pondered that story, but the mystery of the Hardin Silver is still unsolved!

In the first place, there would seem ample reason to doubt that any silver ever occurred in the locale ascribed to the Hardin deposit; yet, 90-odd years ago, men were so confident of that treasure's abundance, they founded a frontier town, built homes and erected three ore mills.

Groundwork for the Hardin story was laid in 1849 when a California-bound emigrant train—comprising 14 wagons and 200-odd members—one night made camp at Double Hot Springs, a few miles north of Black

Had Charles Isenbeck, German scientist, really found the lost silver lode that J. A. Hardin and his companions once stumbled into? Or was he the greatest fraud ever to live in Hardin City? The silver had been there; many people saw it. Then—it suddenly disappeared.

Rock Point, in Nevada's Black Rock Desert.

Upon breaking camp, on the morning following, the wagon captain delegated three men to go in search of wild game for food—one of that trio being J. A. Hardin, a wheelwright. The huntsmen, according to the plan, were to swing through a low range of hills paralleling the trail on the east, and later cut back to overtake the slow-moving wagons.

After several hours of unrewarded tramping through the hills, the men started down the west slope of the mountain to rejoin their party.

During their descent they came upon a deposit of soft material, similar to

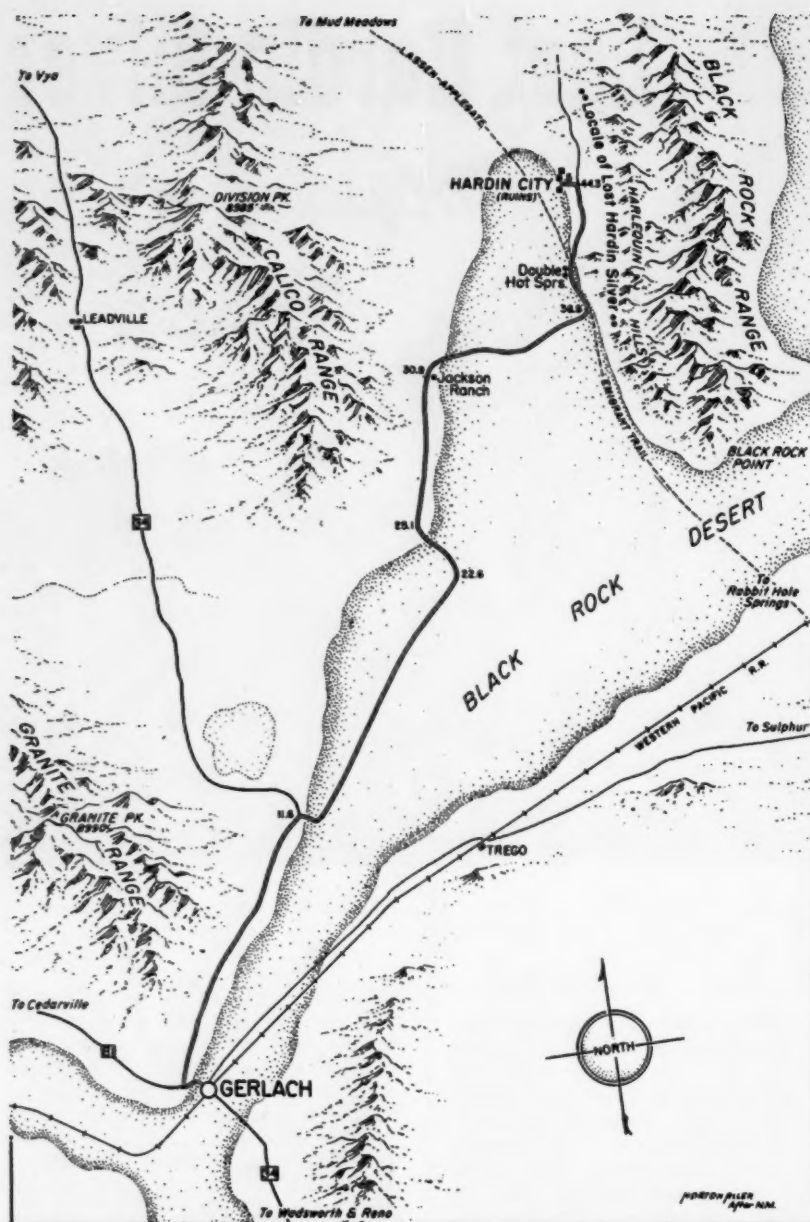
volcanic ash. Floundering across it they were attracted by glittering bits of stone scattered on the surface. One of the trio suggested it might be native silver, and the men filled their hunting bags with as much as they could carry.

When they rejoined their companions that evening at Mud Meadows, the ore samples caused a stir of excitement among the emigrants in the train. But provisions were low and the Black Rock country was swarming with hostile Indians and it was agreed that the caravan should not delay for further prospecting.

Eventually the wagon train reached California, and Hardin settled in Petaluma, established a wagon shop, and soon was doing a flourishing business. His companions found profitable employment, and since the Indians in Nevada were reported to have become increasingly hostile, a return trip was deferred from month to month.

As years passed, prominent and wealthy Californians urged Hardin to lead an exploration party to the scene of discovery; and after months of delay, Hardin, in 1858, agreed to do so.

Using Double Hot Springs as his



initial landmark, the leader retraced as best he was able the route taken by his hunting party nine years before. All went well until he reached the exact point on the mountain where he believed the silver should be; and there Hardin halted and stared about him in bewilderment!

On all that slope, there was not one landmark he could recognize! The only explanation seemed to be that devastating landslides had smothered the area. Either that, or the Petaluma man had misjudged his distances or directions, or had confused his landmarks.

Although he hunted it all the rest of his life, he never found the Lost Hardin Silver.

Others sought it, too.

L. D. Vary, O'Donnell and Jennison, and Judge Harvey and Steve Bass, Johnny Thacker, and Jo Voshay—all of them left campsites on the Black Rock. But the deepest mark of all was left by Charles Isenbeck.

Isenbeck was a humbug or he was the most astute scientist and shrewdest operator who ever worked on the Hardin silver! It's all a point of opinion.

Up in Idaho, at that time, the Poor-man mine was disgorging riches from a black, waxy-looking ore. When a prospector who had seen that ore, now discovered in the Black Rock country a vast deposit of a faintly similar material, word spread that the source of

Hardin's silver had been found, and the rush was on!

But Black Rock ore failed to return anything but goose eggs. Samples were sent to assayers all over the country; and every assay certificate brought back the same disheartening tale—not even a trace of silver!

When someone recalled the occurrence of a "similar ore" in the vicinity of Freiberg, Germany, a sample of the black, waxy stuff was forwarded to Charles Isenbeck, eminent Freiberg chemist.

Isenbeck's report on that ore had the immediate effect of turning night into day, and bringing rejoicing out of despair! The ore was rich beyond man's wildest dreams—some of it running as much as one pound of silver to four pounds of rock!

Or, so said Isenbeck, and the German chemist thought he could work out a process of milling the ore.

Isenbeck was given all the time he wanted—more than two years of it—during all of which period he was carried on the payroll of Black Rock's most important mining company as a research chemist and was pulling down a fabulous salary. (Rumor said \$1000 per month!)

In his report for the fiscal year 1866-67, filed with the State Surveyor General, Humboldt county's assessor and surveyor gave extended praise to the Black Rock district and, in closing, planted this thought: "If Isenbeck succeeds as he expects, the people of Blackrock and the whole country should erect a statue to his memory built of solid silver . . ."

But the *Humboldt Register*, of Unionville, took a dim view of this report—or of any report favorable to the Black Rock. For several months past the *Register* had been characterizing Isenbeck as a "a prince of humbugs," his followers as "victims of insanity," and the Black Rock as a fraud and swindle. And now, muttered the *Register*, a "statue of solid silver" to Isenbeck alluded to by the Humboldt county assessor "was evidently intended to mean two uprights with a cross beam and a rope in the center . . ."

So time marched on, with half the newspapers within 200 miles of Hardin City battling for the glory and honor of the district, and the other half whetting their knives for the kill.

They had not long to wait.

The axe fell early in 1869 in the form of Uncle Sam's yearbook, *Mineral Resources of the States and Territories West of the Rocky Mountains*, compiled and edited by Rossiter W. Raymond, special commissioner of mining statistics.

After stating that the Black Rock district had been the scene "of hopes



Somewhere along the edge of the great Black Rock Desert playa millions of dollars worth of silver ore may be hidden forever.

as wild and disappointments as overwhelming as any recorded in the history of American mines," Raymond carried through with a lengthy resume of the Black Rock story.

"It was not long before the story found credence that a new ore of silver had been discovered in the black wax of Humboldt County," stated the Raymond report. "Respectable assayers in the Pacific states, and in New York, flatly contradicted the popular delusion. But the Black Rock people had an assayer of their own—a man by the name of Isenbeck—who claimed that no one but himself could extract the silver from these peculiar ores. He worked by what he called the Freiberg process, and made use of a peculiar flux . . . Of course, Mr. Isenbeck's secret flux contained a compound of silver.

"Six or seven years passed away in experiments and explorations . . . At last, in 1867, Mr. Isenbeck announced that he was ready to work the rock on a large scale and 13 tons were hauled . . . from different ledges . . . The result announced was \$70 to \$400 per ton! A renewed excitement was the consequence . . . A mill was built in the Black Rock country to be managed by Isenbeck. Two others were put in active preparation. But Mr. Isenbeck could not afford to use his flux on a large scale; and before operations commenced, he disappeared from the public eye.

"The Black Rock miners, who had shown for six years a grim determination and perseverance worthy of respect . . . abandoned their mines in despair. Houses, mills, everything was left as it stood, and in the summer of 1868 there was not a human being left in the district. Even thieves would not go there to steal the abandoned

property. An expedition sent to the region by Mr. Clarence King confirmed the opinion of all scientific men from the beginning, that Black Rock was a swindle . . ."

The mystery surrounding Hardin City had grown ever deeper with the passing of time.

Partly for this reason and partly due to a general interest in the Black Rock Desert, I had begun reading every word I could find on the Hardin silver—old history books, old mining reports, old emigrant diaries, and almost endless columns of blurred six-point type in 90-year-old newspaper files. The more I read of those conflicting reports, the more confused I became; and, finally, I knew I would have to go to Hardin and see for myself.

During my five years of Hardin City research it had been my good fortune to meet Nellie Basso, of Lovelock, Nevada. An advanced mineral collector, amateur assayer, and devotee of Black Rock history, Nellie, too, was eager to go to Hardin. But one important obstacle stood in our way: For all our combined researching, we still didn't know how to find the place!

Even Humboldt County officials were unable to offer any help in pinpointing the old town's location.

It was Ed Green, of Lovelock—our guide and companion on many other desert jaunts—who came to our rescue.

"Okay!" he said, at last. "I'll string along with you! If we can find Hardin City, we'll find it! Otherwise, we'll at least see a lot of country."

As it isn't considered advisable to enter the more remote sections of the Black Rock with only one vehicle, our departure from Lovelock on a morning in July found us driving both Ed's pick-up and my old desert-toughened

sedan. Our immediate destination was Gerlach, in central Washoe County.

It was here we filled our gasoline and water tanks and gave our tires and cooling systems a final check. Then we dropped in for a brief visit with Sheriff "Cisco" Ashenbrenner. Whenever we're heading into isolated territory, we like to have some responsible person in the vicinity know where we're going and when we expect to be back.

The sheriff advised us to go "to the old Jackson place," 30 miles north of Gerlach, and there cut east across the playa toward the Black Rock range. In that way, he said, we would hit the old emigrant trail just south of Double Hot Springs.

"You'll be traveling across the old lake bed," he explained, "and if you're a praying person, pray you won't hit a soft spot! You can see 'em if you keep your eyes open," he went on. "They're generally a little whiter than the surrounding flat; and if you think grease is slippery, that's because you've never been trapped in one of these Black Rock sinks!"

With our business at Gerlach thus completed, we headed north on the trail of a lost city, and the hoped fulfillment of a long dream.

After following the old Leadville road for about a dozen miles, we turned sharply into the desert, and five minutes later found us rolling soundlessly across the bland face of that great sink where thousands of years ago had lain the deep blue water of Lake Lahontan.

We were entering, now, a wide world—wide, and wild, and terribly big and empty! All around us stretched the pale magnificence of the Black Rock playa—a devil's dancefloor, 60 miles in length; a cream-colored void in which was visible not one sign of life,

neither plant nor animal, nor bird, nor insect; not even one greasewood, or a lone blade of salt grass! Whenever I cross this Black Rock sink, it is with the strange feeling of having been re-born into another era of geologic time.

The entire lake bed was our highway. Wheel tracks led off crazily, circled and reconverged. There were no road signs, or bridges, no guard rails, no gutter. There was no speed limit, no traffic officers, no traffic. As the sheriff had said, you paid your money and took your choice . . . and all the while, you sat a little tensely in your seat, and the cords in your neck grew a little tight as you watched for those treacherous soft areas of which you had been warned.

We bored into the northeast for a dozen miles, then bent to the northwest and the west; and, gradually, the slatelike surface of the dry lake bed was replaced by drift sand and scattered greasewood. Having bounced over the last rough hummock of the old beachline, we again turned north—now on a dirt road that paralleled the east base of the Nevada Calicos.

Thirty-one miles north of Gerlach we passed the old Jackson place; and here, as the sheriff had directed, we swung due east toward the Black Rock range. Seven miles across the unwrinkled face of the playa, another mile of bouncing over the rough hummocks of the easterly shoreline; and, again, we were heading into the north.

Torrents of water, pouring from tinder-dry canyons during this area's infrequent but violent storms, had cut the trail in a series of sharp, deep gashes. Some of these gullies required shovel work; most could be crossed with care, and low gear. There were stretches of knife-like rock, and gravel-filled washes, and pockets where powdery blow sand had drifted deeply over the trail. If it had been difficult to travel this road a century before, it was no less difficult today—it was still the same road—but we eased the cars through, at five miles an hour, and the miles wore away.

A smear of green tules and salt grass, vapory white steam rising from twin cauldrons of near-boiling water, a white-encrusted flat, and a long-deserted cabin built of old railroad ties, announced our arrival at Double Hot Springs. Here the wagon train had made camp on the night prior to the discovery.

Soon after leaving the hot springs, we began paralleling the Harlequin Hills—a gaudily-colored range that stretches along the horizon a few miles east of the trail.

My eyes were still searching those lonely canyons and bare ridges when Ed halted the pick-up; and when I had

coasted to a dusty stop behind him, I saw he was grinning.

"Over there—" he said, jerking a thumb toward the west. "What's that?"

Narrowing my eyes against the wind, I could make out a white stone upthrust, like a broken fang; and all in a quick, incredulous flash, I knew it was an old mill chimney!

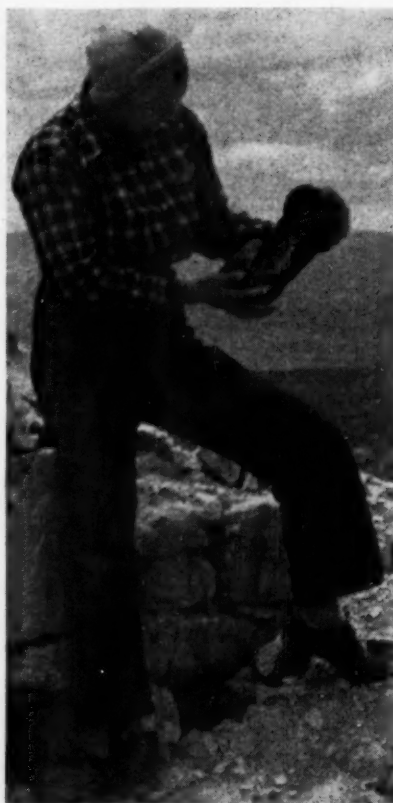
It was Hardin City!

Closer inspection revealed the ruins of two mills—neither one large or tall, but strangely imposing in that wide, empty land where no other man-made structure was visible. Situated about 100 yards apart, each of the ruins was perched on the lip of a low bank that dropped away to a clump of tules, a seeping spring, and a pond of chocolate-colored water huddled in the dead white somnolence of the flat.

Before we had time to examine the mills, we had made another discovery—a 90-year-old quicksilver flask! Half-buried in the white salt crust, the iron container was eaten deeply by corrosion and so fragile it crumbled at our touch.

And while we were still exulting over this find, Ed stumbled upon an old arrastra! In a copy of the *Hum-boldt Register* for 1865, I had read that Steve Bass was installing at Har-

Author examines quicksilver flask found in mill ruins.



din City one of these Mexican type ore grinders; but after all these years, I had never dared hope that we might find it!

The pit—about six feet in diameter, and lined by wooden planking—was refilled to the brim with blown sand; the rotted stump of the pivot post was still visible; the old grinding stones were still lying beside the pit; and, nearby, lay the flat paving stones with which that pit had been floored. Concentric lines, etched into their top plane by the circling boulders, left no question in our minds concerning the original use of those stones.

We established camp at the east edge of "town"—our campsite, an almost-limitless flatness encrusted with white mineral salts and sparingly dotted with small saltbrush.

In our prowlings of the following day, we found the ruins of the third mill. Largest of the trio, it was a vivid sort of structure built of black and red volcanic boulders, combined in some semblance of a color pattern. Sections of these walls were still standing to a height of ten feet.

Numerous low mounds, roughly squared, marked the sites where adobe or sod buildings had formerly stood, and melted away; and around these mounds we found old square nails and sun-purpled glass, a few bone buttons, and necks of green bottles—older and cruder in form than any we had seen before! We also found several graves, outlined with volcanic boulders, and with black basalt for markers. Time, and the sand-blasting wind, had erased whatever identification those markers once may have carried.

All the while, naturally, we were keeping sharp watch for the black "waxy material" that had inspired that long-ago excitement; but except for some black stratification in the Harlequin Hills to the east, we had seen nothing that remotely resembled the ore described.

"Candidly," said Ed, who has spent a good share of his lifetime prospecting the Nevada hills, "I don't think there was ever a pound of ore here! Non-metallics, maybe; not silver or gold . . ."

Nellie's faith in the Hardin treasure was still unshaken, but I sided with Ed. After all, there was plenty of evidence to uphold his theory, and not very much to support the rumor of silver's presence. We continued, however, to prospect the washes and flats; and by the time we left the Black Rock, I felt we had given the place a fair examination, and that Rossiter W. Raymond, Uncle Sam's mining statistician, had been right: There had never been any ore here, and Hardin City had been nothing but a swindle!

LIFE ON THE DESERT

A. M. Russell's five-year plan calls for tunneling 150 feet further into the granite walls of Panamint Mountains—and there he has faith he will find his gold mine. But it takes a lot of faith.

By PANAMINT RUSS

MY CABINS are the base of 7200-foot Manly Peak in the Panamint Mountains, Death Valley, California. I started building them in 1930, the same year I found the gold high up the side of old Manly and began my mining operation, now a long horizontal shaft into the side of the mountain.

From my favorite chair in front of the cabins I have a 90-mile view across the valley. My locust trees are the only ones within 125 miles, as far as I know. Just looking at the way they defy wind, storm, rain and snow gives me inspiration. Their bark is unscarred, well-balanced, leaves emerald green, but how they survive I'll never know.

The concord grapes are doing well, too. Twenty-five years ago coming through Riverside, California, I stopped at a nursery and bought a half dozen bare-root size, wrapped them in a newspaper, laid them on the running board with a wet gunny sack and today they are 20 feet of beauty.

I had hardly finished cleaning out my spring, a yearly chore, and settled back in my spring steel patio chair (some tenderfoot brought it out five years ago and forgot to take it back) when the black pickup truck with the white lettering drove up to pay respects on a routine inspection.

It was tall kindly-faced Matt Ryan, the National Monument ranger, and his wife. I'd always missed him before. It was the first time we had met. His headquarters is at the other end of the monument and I am only here two weeks every year for my assessment work.

We had a chat about the baby burro stealers, the bad sports who kill game and leave it by the springs to stink, the roving high graders, the city fools who lose their heads and wander from their car as soon as they are lost, about many things. He thought I had a very nice camp and mill-site and asked how the mine was coming along? Was I working alone?

He knew the answers, it's the same as last year and the years before that. The miners were enticed into the airplane factories. With a pair of pliers and a screw driver they had a cost-plus paradise, and still don't realize it's over. Just sit around waiting for the call that doesn't come, instead of going back to the hills.



Panamint Russ, shown here standing beside his cabin at the foot of Manly Peak in the Death Valley Panamint Range, started his mine shaft in 1930 on Faith and is still working on it.

The sun was already behind Manly, so after a cool drink of that natural granite filtered water, Matt had to shove off. In parting he remarked: "Russ as long as you show Good Faith, that's the main requirement."

After the black pickup crossed Butte Valley it looked like a speck and disappeared from view. I relaxed and wondered how much Good Faith one man is supposed to have.

That ranger didn't know that I had plenty of Good Faith long before they decided to make this a national monument—had to. And I have never lost that Faith even though there have been a few setbacks. I am now 60, so if I finish my mine tunnel in the next five years, we'll retire together, my Faith and me.

But Matt's decree got me to thinking how many times I have come face-to-face with Good Faith out here on the desert:

It's been ten days now, since I have seen anyone, a fellow was supposed to drop the mail and some supplies off

four days ago. He may have had trouble, because at that time we had a twister. The wind blew down the canyon so hard it raised the roof off the shack. Pulled the nails out three inches. I got some heavy wire and wired it to the floor. Just finished when the wind changed, came back up the canyon, started raising the other side of the roof, cracking rafters. I cut the clothesline and wired that side down just in time. Was undecided whether to move to a nearby cave in the rocks or stick it out. I stuck it out. In the morning the wind died down. I spent the morning picking up and bringing back to camp everything that was loose and moveable.

I wondered if the elements were trying to run me off, or just annoy me. Next day the wind blew again so hard it was impossible hardly to go outside. Three more lost days with nothing accomplished. I needed Good Faith.

Last year the burro, "Jubilee" we called him, was shot or stolen. I had raised him from a colt and just got

him to where he could pack and be of some help. Now my back has to take his place.

The year before that I was caught in a cloudburst about 9 p.m. on the side of a mountain. Had to drive by instinct: water all over the road, rocks bouncing over the top of the car, both front tires flattened, roads washed out. I was two days trying to get to town. It took Good Faith.

The year before that—all alone as usual—I was trying to pry out a boulder in the path the wheelbarrow must use and double-ruptured myself. That meant the hospital and recovery.

No matter how good a desert driver you are, things will happen on these dirt roads. A sharp rock sticking up out of the sand, took the plug off the crankcase and then knocked the plug out of the gas tank. The new broom I had along made some plugs until I could get some new ones, but I lost my gas and oil, and before reaching camp the car buried itself up to the hub caps in the soft sand and silt. I had to cut sagebrush and lay it for a road to get clear.

Another year, if I recollect right, the tunnel was in about 150 feet deep—too far for a wheelbarrow. I needed an ore car, ties and rails. Had a fellow helping me that year. He forgot to shake his trousers in the morning (a desert must!) and a scorpion bit him before he had his suspenders adjusted. So he quit and I was along again with my Good Faith.

The fellow who was doing the packing by contract to get my stuff up to the tunnel had five burros. He always slept on the ground by the spring. Chewed strong Black-Jack plug tobacco. He was about asleep one night when a snake crawled over his face between his upper lip and nose. He's not sure what kind it was but he swallowed his tobacco and got so upset he couldn't sleep or eat, so he pulled out for a couple of weeks. These delays are costly but we must have Good Faith.

Well, I tried to hire a couple of fellows to help me. Had no luck. A mine owner at Tecopa said, "Russ, there just isn't any extra help around. But to help you out, you take two of my muckers for a week or so." I had to guarantee them two weeks' work, board and room.

My tunnel is one mile up the side of Manly Peak, a winding burro trail the only way up. These two fellows couldn't even climb up that trail with the water, powder, drills and lunch. So I had to keep my agreement and give them two weeks' work around camp. Another two weeks lost!

Pack rats run all over my cabins.

Some of them have been stealing cotton from the bottom of the mattress I am sleeping on and I couldn't figure out where they were taking it. All I knew was they sure made a lot of noise getting it through the springs. I just bought six new traps and went out to the car to get them. As I raised the rear compartment door, there was my cotton. The packrats were building a new nest among my extra powder, fuses and caps. All they have to do now is finish their nest with matches, set one off, burn up my transportation and I will have a 65-mile hike back to town—and my Good Faith will be shattered for this year.

But out here, there's always a blue sky, good pure water filtered by Nature through lime and granite rocks, smogless air, no 50-cent parking lots, fresh sage and pinyon pine. I shouldn't ask anyone for help, because it's my problem. But I have Faith, and it will pay off!

I started the tunnel five years ago. I was married and had a son. My wife said one year, "I am going to break you of that desert habit of yours. Every year you go to Butte Valley and stay too long. I warn you, if you stay over two weeks this year I will divorce you!"

I had good intentions of returning in two weeks but circumstances were against me. Some fellow and his family had been working some tailings on an old dump and were just ready to pull out. Their grub was all gone. He warmed up the motor of his truck, but forgot he had drained the radiator the night before. When that cold spring water hit the hot motor it cracked the head. They were stuck and I had the only car within 65 miles.

I agreed to see them through. Gave them my grub and started for Trona, via Ballarat. At noon a cloudburst hit the Slate Range and all roads were washed out. It was several days before I could get over the roads. Then there was no motor head at Trona. Had to send to Los Angeles. So by the time I returned to camp, helped install the head and did some necessary work, it was three weeks before I arrived home in Los Angeles. My wife was gone and had taken my son. I was divorced. My boy, now 24, has never seen the tunnel his Dad has been working on for so long.

The day I found that high grade ore among the boulders and decided to drop down the hill a thousand feet and drill that tunnel, I had to have a lot of Good Faith.

The tunnel is now 330 feet in solid rock, all driven by hand. I still have 150 feet to go, but I figure I can finish it in another five years, if I have Good Faith!

Low Discharge Is Forecast For Southwest

January brought above-normal precipitation to much of the Great Basin and part of the Colorado Basin, but precipitation was below normal in the Rio Grande Basin. All three basins forecast below normal runoffs.

In the Great Basin region, the Great Salt Lake Basin could expect some water supply improvement, but supplies still fall short of the 10-year average. Most streams in the basin will have water supplies at 60 to 85 percent of average, although the Bear River drainage will be only 56 to 65 percent.

Sevier and Beaver River Basins, Truckee, Carson, Walker and Owens River Basins could expect generally between 69 and 95 percent water supplies, as could the Mojave River Basin. Serious deficiencies are predicted for the Humboldt River Basin with the main stream at Palisade expected to yield only 21 percent of the 10-year average flow.

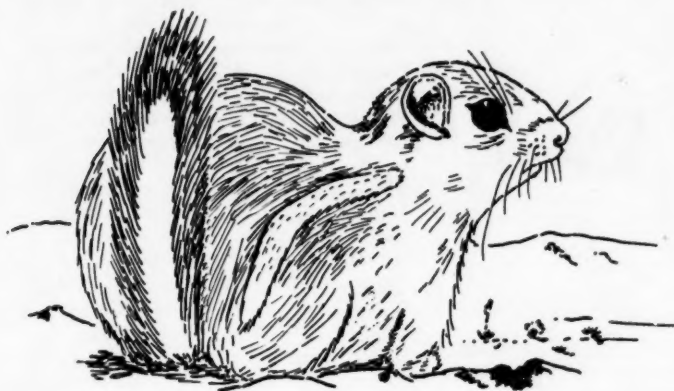
In the Colorado Basin, forecasts for the Colorado River above Cisco are slightly lower than a month ago, with runoffs estimated at 68 to 93 percent of average. The water supply outlook for the Green River Basin is for runoff ranging from much less than average for the upper Green River drainage in Wyoming to near average for the Yampa and White Rivers in Colorado. Forecasts for the Utah tributaries show 51 percent of average for the Strawberry River and 91 percent for Ashley Creek.

Forecasts for the San Juan River Basin are slightly lower than those issued a month ago. Runoff in the north should be 80 percent, dropping to 66 percent for the main stream at Farmington.

Above normal precipitation in January of the Lower Colorado Basin was not sufficient to offset earlier drought conditions and water supply outlook is poor. Seriously deficient streamflow in the Little Colorado Basin forecasts a 30 to 50 percent runoff. Supplies only slightly better were forecast for the Gila River Basin.

In the Rio Grande Basin below-normal precipitation was general, except over some of the eastern tributary watersheds. The basin expected 36 to 80 percent of average runoff, while the Pecos River Basin forecast was for 62 to 85 percent of average.

ON DESERT TRAILS WITH A NATURALIST - XIII



Wild mice, birds, lizards — animals given little credit for intelligence—use more wisdom than most folks realize. It takes the patience and understanding of a man like Edmund Jaeger to bring this wisdom into view. Here are the animals and here are the actions, just as the naturalist found them in their own desert homelands.

Antelope Ground Squirrels are so small they are often called chipmunks. The white under-tail and white stripe leading up across the shoulders are distinguishing marks.

Denizens of the Desert Who Live by Their Wits

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum
Sketches by the author

INTIMATE AND delightful contacts with small animals of the desert are some of the most gratifying experiences a naturalist can have. From these contacts I have become convinced that animals, even the very small ones, have almost as much personality and individuality as human beings—and often quite unique ways of solving life's problems. Even such apparently thoughtless creatures as the mice, lizards and birds do quite a bit of thinking on their own.

One late autumn while carrying on some investigations which required that I set up a more or less permanent camp, I put my cot under a palo verde tree and slept there in the open for a period of several weeks. Seeing the need of going away for a few days, I left my bed made-up with only a tarpaulin to protect it.

As I returned to my camp several evenings later, I rolled back the bed covers before retiring. Great was my amazement to find hidden beneath them not only the beginnings of the winter sleeping-nest of a white-footed mouse but also its neat store of nearly a cupful of wildflower seeds, mostly those of the brittle bush. The animal evidently had decided it had found a very good place for both winter pantry and cozy nest.

I very much disliked disturbing the results of its labors especially when I thought of the many trips it had made back and forth to garner in the thousands of little seeds and the bits of rootlets, grass and hair to make the nest. However, it was my conclusion that it would be quite impossible for both of us to use that bed at the same time. Carefully I removed both nest and seeds, putting them where the mouse could readily find and remove them to other selected quarters. This, I thought, was the end of our partnership. However, shortly after crawling into bed, I felt something soft and lively moving around beside me under the covers. It was my mouse, back to begin another night's labor of seed-storing and nest building. A quick movement on my part sent it scurrying away, and it never returned to the bed. I was interested to find next morning that it had discovered the store of seeds and removed them. It was good to know, too, that all its provident labors were not lost.

Some years ago, while traveling with pack burro to carry my bedroll and provisions, I camped for a night in the pinyon forest at Asbestos Spring on the desert slope of California's San Jacinto Mountains. It was autumn when I arrived, and I found only a very small trickle of water flowing from the pipe that led to a watering trough below the spring. When supper was over I walked to the dripping pipe to get a drink. As I approached I heard the musical chirping notes of *Hyla*, the desert tree-frog.

Moreover I noticed that the water now was no longer flowing steadily, but only in intermittent spurts. The water would flow for a few moments, then stop completely, followed by a sounding of cheerful tree-frog notes, and another sudden flow of water. The strange sequence was repeated again and again. It had me puzzled.

As I stooped over to drink I happened to look into the orifice of the one-inch rusty pipe. There sat the small singer inside—a tree frog, his golden irised eyes blinking as he looked at me so unafraid, contented and wise. The strange problem of water flow was now solved. Every time he filled his lungs his small flabby sides puffed out so much that the water in the pipe was dammed up behind him. This was the time of no flow. Then when he deflated his lungs while chirping, the water gushed on around him. "Another charming little friend of the wild I've met," I said and left him undisturbed to give his concert through the night.

He had certainly chosen a good spot for keeping cool; a good place to insure himself having the moist skin so necessary for amphibian breathing and above all a retreat where he was safe from all enemies above and below. I concluded he was a rather wise little frog.

In October, 1953, Jerry Becker of Pasadena Junior College and Bill Cornwell of Art Center in Los Angeles spent a weekend with me in a remote pinyon-juniper area of the Joshua Tree

National Monument. It was the season of clear blue sunny skies, dry stimulating air and cool gentle breezes; time of autumnal bird migration. Some of the southward passing birds were Gambel White-crowned Sparrows, which probably had left their summer home in the northern mountains not many days before. Many of them doubtless were very tired from the long hours of flight and were hungry and thirsty.

Hardly had we settled in camp until one of them alighted on the ground within a few feet of us. It acted strangely unafraid, hopping about before us like a tame bird long accustomed to the companionship of man. As we walked around camp it continued to hop about near us, keeping just beyond range of our moving feet. We decided it might be thirsty so we put water for it in a shallow pan. Immediately it hopped upon the pan's edge and drank. We threw cracker crumbs on the ground. These were promptly eaten. Our handsome bird visitor seemed ready now to adopt us as friends. At one time we were able to touch it. This extraordinary behavior continued not only the remainder of the day but again on the morrow. We could explain it only on the basis of extreme need of food and drink, coupled with the fact that we may have been the first human beings it had ever met. A most satisfying and pleasing experience it was. I do not expect to see it duplicated soon.

Summertime on the desert brings out the nervous and swiftly crawling little wingless wasps, which youngsters often call velvet or fuzzy ants. Some of their intensely black bodies are covered with a light tan or dirty white long, hairy coat, while others have thickly-set brick-red hairs, especially on the rounded abdomen or gaster. These wasps are earnest creatures, never given to much resting. They are very hearty insects, so durably built that one can be stepped on as it crawls in the dust and it will experience nothing but temporary discomfort. When disturbed they often emit a faint, high-pitched squeaky note.

Recently, a camp companion of mine came upon one of these mutillids, as they are more properly called. Never having seen one before he was curious about its behavior. I warned him that it was not safe to handle roughly because of its extraordinarily long stinger, which could cause considerable pain if thrust deep into human flesh.

Mutillids, he found, are hard to catch since they are alert, clever dodgers and swift. However, by using patience he eventually got this one inside a tin can. He placed the can out of direct sunlight under the closely over-



Gambel Sparrow—a desert winter resident. Always a cheerful melodious songster.

hanging limb of a spiny-leaved Joshua Tree.

Shortly afterward we saw a Rough-scaled Lizard dash across the ground as is its habit when stalking insect prey. By chance it came very close to the can containing our captive insect. Immediately it stopped and began swinging its head from side to side. We knew from this that it was listening to the small sounds made by the mutillid inside the tin container.

Of a sudden, as if a new thought had come to mind, the lizard ran back some distance to the base of the Joshua Tree, ran up its trunk, out onto a limb to a point from which it could look directly below into the can and see what it was that made the strange noise. Then, so quickly we were scarcely able to follow its movements, it jumped straight down into the can and snapped up the mutillid. During the split second it had taken to jump back out of the can it had half swallowed the hairy insect. A gulp and the mutillid was well on its way to the saurian stomach. It surprised us that the lizard was not stung internally. It might have proved to be a very hot meal, we thought. But we saw no sign of gastric discomfort. Never again will I say that a lizard is a stupid animal. Here surely was an exhibition of expert planning, quick thinking and adeptness in get-

This is Mutilla, the handsome fuzzy ant—really a solitary wasp. You are certain to meet one on your outdoor rambles.



ting its limbs in motion and putting into execution its decision.

The late winter and early spring months (February and March) are very busy times for many of the desert animals. It is the time of mating and raising young families. Mid-March was the time Jack Shepard of Occidental College and I visited those strangle-banded rock formations of the mid-Mojave Desert so aptly called the Cinnamon-roll Rocks. We wished to see if the chuckawallas were out of winter hiding, watch nest-building activities of the rock wrens and perhaps run onto a new family of antelope ground squirrels.

We spent the whole morning climbing among the rocks without seeing more than a few chuckawallas and found only one new bird's nest. Disappointed, tired, and thirsty, we returned to the car and opened a cool bottle of apple juice we'd kept in the insulating folds of a blanket. As we drank, a small head poked over the top of a big boulder near the car. It looked us over, then quickly and boldly ran into our presence—a small antelope ground squirrel. With tail a-quiver, hands pressed to its sides, and big black eyes registering curiosity and excitement, it sat bolt upright before us—not more than three feet away. We stood very still and it soon began to play about our feet. Jack, who happened to have some soda crackers in his hands, threw some broken pieces on the sand. Quickly the squirrel took one up in its small paws, sat again upright on its haunches and nibbled all around the edges of the large cracker fragment while adeptly turning it around and around. After eating avidly for some moments it picked up some of the other choice cracker tidbits for future needs. Each piece was carried away 40 or 50 feet and buried in a different place.

The burial procedure was unique. First the animal dug a small hole with its forefeet. Then the food morsel, still held in its mouth, was dropped and pressed firmly in place by repeated thrusts of the nose. Covering was accomplished by working sand forward with the small forefeet held side by side to make of them a good pusher. Then the whole area was thoroughly tamped and smoothed over by rapid pappings with the forefeet. It was all done each time in a matter of a few minutes. Once the food was buried the squirrel bounded back for more.

Finally it became bold enough actually to take bits of crackers from our hands. Feeding was several times interrupted by dust baths sometimes taken within arms-length of us. It was evidently a way of taking care of annoyingly frequent itches due to para-

sites such as fleas. The dust bath activities were as ludicrous as interesting. The ground was first reduced to a powdery state by scratching. The animal would then lie flat on its "tummy" and rapidly rub its underparts back and forth eight or 10 times. This done it made a quick roll-over in the dust several times, got up and bounced away.

Beside us and in full bloom was a small bush of the pungent-odored plant called Desert Rue or *Thamnosma*. Its oil-filled leaves, stems and blossoms are all so irritating to human skin that within a few minutes after being rubbed on there will be marked reddening and severe itching. A tea, even a weak brew of it, is so hot that the Paiute Indians say it will painfully warm your stomach and cause you to have such strange wild dreams as you've never had before. Yet it was the buds and blossoms of this potent shrub that our antelope ground squirrel decided to use to spice its meal! Crawling up into the bush it snipped-off and actually ate with apparent relish at least a dozen or more of the spicy odorous buds and flowers. "Ground squirrel stomachs must be plenty tough," exclaimed Jack. I agreed.

Two weeks later I returned to the same camp. The little ground squirrel evidently remembered us well and the fat feast she'd had from our hands. Hardly had the car stopped until she came bounding over the rocks to meet us. We were ready with crackers and hunger satisfying raisins and were rewarded by the same evidence of complete confidence in our good intentions. We had a chance again to see the feeding, the burying of food, the dust bathing and grooming of furry coat.

The place was visited a third time in late October. And our little rodent was there to greet us again. But instead of one, there were now four. A

CALIFORNIA DESERTS SEEK ELEVEN NEW STATE PARKS

SACRAMENTO — Eleven new parks from California desert counties have been mentioned as possibilities among 83 Southern California State park projects in a five-year \$64,000,000 program released by the California State Park Commission. The program also sets aside funds for 1200 miles of riding and hiking trails in the state. Possible park sites include: (Imperial County) Imperial Sandhills and Picacho; (Riverside County) Painted and Box Canyons, Quien Sabe Point, Thousand Palms and Ehrenberg Bridge; (San Bernardino County) Mitchell's Caverns, Trona Limestone Pinnacles and Parker Dam. *Los Angeles Times*

family of young had been raised and come to maturity in the time of our absence. A bully good time we had with the whole new lot.

Yes, Mrs. Ground Squirrel, we'll be

back to see you and the well-mannered members of your household this spring, again. We've adopted you as members of our circle of closest and choicest desert friends.

Desert Quiz:

Since they cannot put you in jail for guessing wrong, *Desert Magazine's* monthly Quiz provides a pleasant evening's entertainment with no hazards attached. You may even learn something about the Great American Desert from these questions and answers. If you can answer 10 of them correctly you may classify yourself as a fair beginner in the study of the life and lore of the desert country. A score of 12 to 14 is fair, 15-17 good, and if you make 19 or over you are qualified for the degree SDS—Sand Dune Sage. The answers are on page 37.

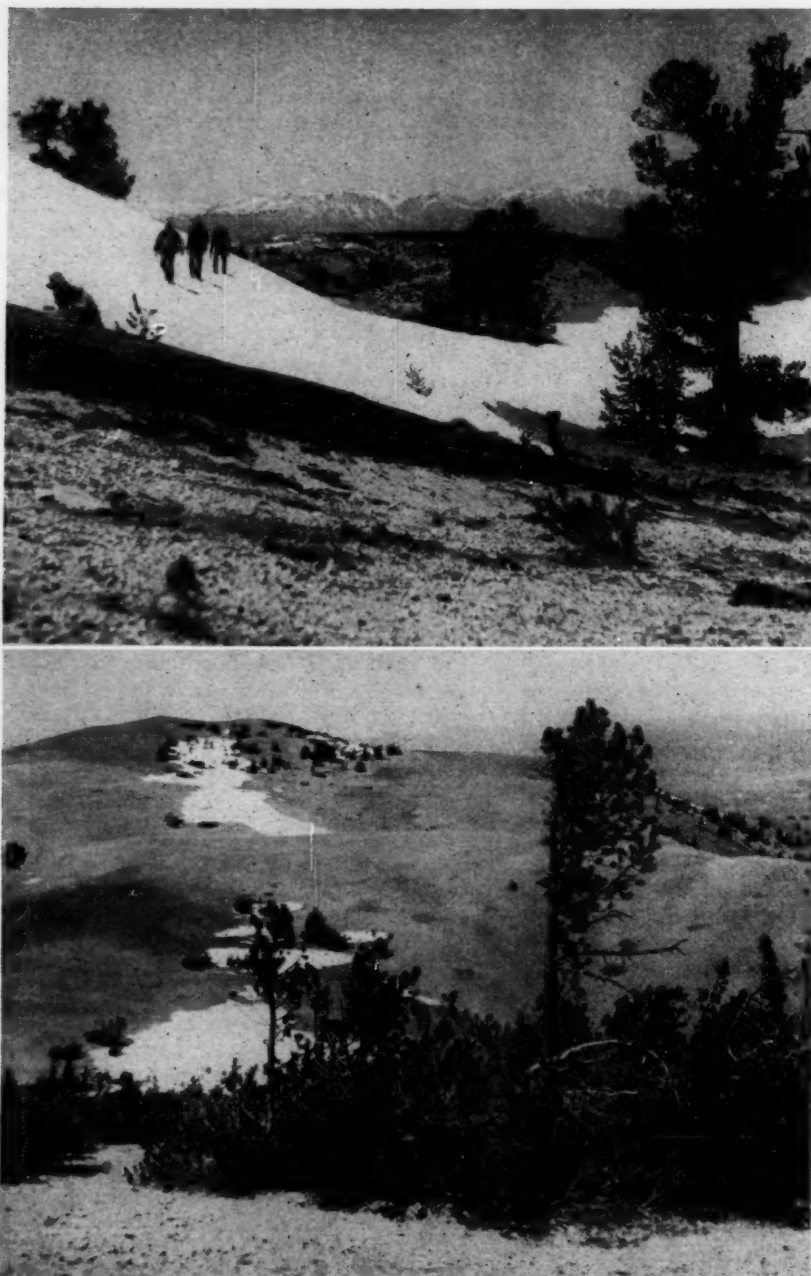
- 1—According to legend the Lost Dutchman mine is located in the —
Panamint Mountains..... Catalina Mountains..... Sangre de
Cristo Mountains..... Superstition Mountains.....
- 2—A "mucker" generally works in a—Mine..... Sawmill..... Chemi-
cal laboratory..... Dude ranch.....
- 3—The Indian ruins known as Montezuma Castle are located in—New
Mexico..... Arizona..... Nevada..... California.....
- 4—"Chaparral Bird" is one of the common names given to a—Wild
turkey..... Desert quail..... Roadrunner..... Cactus wren.....
- 5—The setting for Harold Bell Wright's book *The Winning of Barbara
Worth* was—Death Valley..... Salt River Valley of Arizona.....
Imperial Valley of California..... The Mojave Desert.....
- 6—Malachite belongs to the—Mica group of minerals..... Copper
group..... Iron group..... Aluminum group.....
- 7—Pitahaya fruit comes from a species of—Sage..... Desert vine.....
Coniferous tree..... Cactus.....
- 8—The most widely known character in the Lincoln County War was—
Billy the Kid..... Wyatt Earp..... Ike Clanton..... Butch
Cassidy.....
- 9—The name Kolb is connected with—The exploration of the Grand
Canyon by boat..... The discovery of silver at Tombstone.....
The mining of borax in California..... The capture of Geronimo.....
- 10—Hadj Ali (Hi Jolly) was a—River captain on the Colorado.....
Camel driver..... Apache Indian chief..... First white man to
explore Death Valley.....
- 11—Desert mistletoe never grows on one of the following trees—Iron-
wood..... Mesquite..... Catsclaw..... Joshua tree.....
- 12—The cactus species most commonly used by craftsmen in the making
of cactus furniture is—Saguaro..... Staghorn..... Cholla.....
Beavertail.....
- 13—Clyde Forsythe is a desert—Author..... Painter..... Natural-
ist..... Explorer.....
- 14—From the top of Sunset Crater one may see—San Francisco peaks.....
Wasatch range..... Funeral mountains..... San Jacinto peak.....
- 15—The plant commonly called Devil's Claw is used by Indian women in
making—Toys for the children..... Medicine..... Seasoning for
food..... Weaving baskets.....
- 16—San Xavier del Bac mission is at—Nogales..... Tucson..... El
Paso..... Santa Fe.....
- 17—Flowers most commonly seen growing on the sand dunes following
winter rains are—Sunflowers..... Desert lilies..... Verbena.....
Poppies.....
- 18—The Mohs scale is used in measuring the—Purity of gold..... Age
of a tree..... Velocity of a river..... Hardness of a mineral.....
- 19—One of the following streams is not a tributary of the Colorado River
—Bill Williams River..... Gila River..... Humboldt River.....
San Juan River.....
- 20—The annual Indian Inter-tribal Ceremonial is held in August each
year at—Gallup, New Mexico..... Santa Fe, New Mexico.....
Window Rock, Arizona..... Tucson, Arizona.....

We Climbed Glass Mountain

At some ancient period in geological history, there was an inferno of volcanic eruption in what is now known as the Mono Lake region of east central California. Evidence of the prehistoric upheaval is found today in the presence of numerous craters — and in Glass Mountain. Intrigued by the name, a group of Sierra Club mountaineers climbed the peak — and this is what they found.

Above—Late snow still lay on the north slopes of the upper ridge.

Below—Looking across the summit mesa. The buff-colored pumice is streaked with obsidian dust.



By LOUISE T. WERNER
Photos by Niles Werner
Map by Norton Allen

AMONG THE Desert Peakers of the Sierra Club there are some who enjoy poring over maps in search of new desert mountains to explore. Lloyd Balsam, a young man who between weekends of hiking and skiing supervises the testing of new equipment at Northrop Aircraft, came across the name "Glass Mountain" on a map of Mono County, California. The name intrigued him. Its proximity to the Mono Craters suggested that "glass" might refer to the volcanic glass, obsidian.

The position of the mountain in the north end of Owens Valley, between the Sierra Nevada Range on the west and the White Mountains on the east suggested that its 11,127-foot summit might prove an exceptionally fine vantage point from which to view that part of the country. He offered to lead a trip there over a three-day Memorial holiday.

After the word had gone out via the printed schedule, it turned out that the idea interested a good many others too. Fifty-six people met on Saturday noon at Tom's Place on Highway 395 in upper Owens Valley, to caravan to the campsite on Glass Mountain.

We left Tom's Place, 14 cars of us, and continued up Highway 395 to a sign reading "Whitmore Tubs." We turned right onto a black-top road to Benton Crossing, eight miles, there turning left on a dirt road that followed up the Owens River for about two miles and then cut across the desert to the mouth of a canyon on the southwest slope of Glass Mountain, five and one-half miles of dirt road.

The road ended in the mouth of the canyon at a large clearing under Jeffrey pines and quaking aspen. The elevation was about 7500 feet. Former campers had left the clearing strewn with debris. Leader Balsam went to work with his shovel and others joined him in digging a pit which a dozen young people filled with tin cans and bottles. Old socks, paper cartons and a ragged shirt were piled up to be burned. It was like having to clean the tub before one's bath as well as after, but what a difference it made!

We filled our eyes with the natural beauty of the place—the shimmer of restless aspen leaves as the sun sifted through, tall Jeffrey pines hung with

fat, handsome cones, wild roses straggling around the edges of the clearing as if to fence it in. A path led back through dense woods to a little stream rippling over a mosaic of granite pebbles and black bits of obsidian. Clumps of golden birches crowded the stream, their yellow catkins drooping, pendant-like, over the water. Wild iris bloomed beside budding columbine.

The 56 people who settled themselves to camp around the edges of the clearing and in little bays bulging from it, ranged in age from 5 months to 64 years, including half a dozen children under five. Cooking fires soon were burning, the smell of woodsmoke blending with the aromas of brewing coffee, broiling steaks and canned stew. Eric Kent built a central warming fire while his daughter Kathy, not quite two, watched him, big-eyed with the fascination of it. Parker Severson came back from reconnoitering in the woods round about and reported flushing two deer.

Even the 5-month-old son of the Garver Lights of Long Beach enjoyed the evening campfire, cooing from the depths of a snug blanket. "He's being socialized," his mother explained with a smile. It seemed unusually balmy for an elevation of 7500 feet. Marion Dean led "Home on the Range," "There's a Long, Long Trail" and a dozen other favorite campfire songs. Lloyd Balsam's announcement that the climb to the summit of Glass Mountain would begin at eight on Sunday morning brought exclamations of satisfaction from some who remembered desert peak climbs that began at three a.m. Forty-one of us would climb.

Climbing from this campsite to the 11,127-foot summit, 3500 feet of elevation is gained in about six miles. There was no official trail, but the impression which we made on the deer trails Leader Lloyd chose to follow will probably mark the route for a long time.

We contoured up the west slope of the canyon under the Jeffrey pines until a rocky buttress barred our way. Zigzagging up beside the buttress we were soon high enough on the slope to look back over the canyon's mouth and see the road trailing out over the sage flat toward the Owens River. A continuous line of snowy Sierra peaks stood against the sky.

On the opposite side of the canyon the slope, supporting a dense stand of pines, culminated in a rocky pinnacle. Bits of obsidian tinkled in the mixture of sand and pumice that slid underfoot. Bitterbrush, covered with yellow blooms, filled the air with the scent of honey and attracted bees, butterflies and hummingbirds. The leaves of



Focus hasn't a chance when both camera and subjects are skidding down scree. The long pumice slopes made the descent of Glass Mountain easy, fast and fun.

the mountain mahogany bristled dark evergreens continued to the summit in green against silver bark. A tiny rosy trumpet with yellow veins in its throat grew close to the ground, one of the less common species of mimulus.

"See that long slide over there?" asked Lloyd, pointing to a steep scree-run of buff-colored pumice with bits of obsidian sparkling in it. "What do you say we try coming down that way?" From across the canyon it looked smooth and boulder-free, promising a safe and fast descent.

The blue of Crowley Lake came into view at the foot of the Sierra Nevada. Overhead a mountain bluebird chased a hawk. Some granite boulders along the trail looked worm-eaten where foreign particles had weathered out. We passed a strange mushroom, table-high, made up of alternate layers of obsidian and sandstone, and another that looked as if chunks of obsidian had been haphazardly cemented together to make a rough pedestal.

Lloyd led with an easy pace, allowing plenty of time for resting, catching up, identifying plants and rocks, admiring the views and taking pictures, and visiting. His pace encouraged people new to mountain climbing and was undoubtedly responsible for the fact that all made the summit without difficulty.

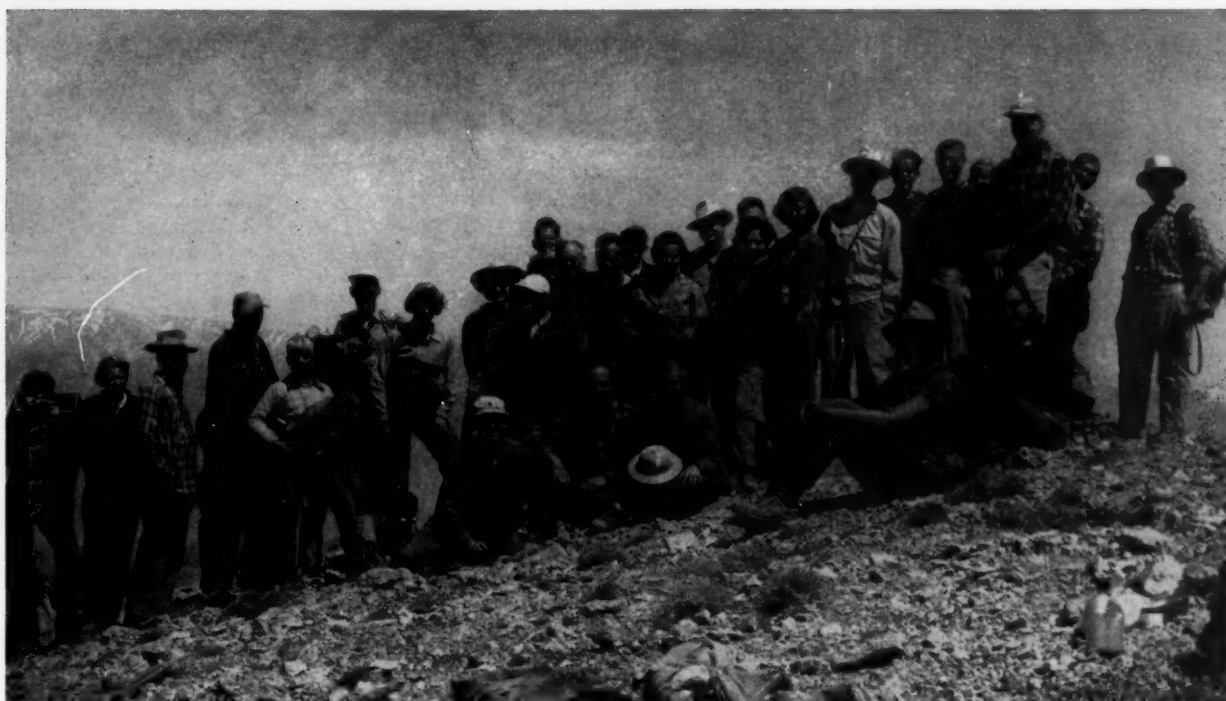
A lava flow capped the top of the ridge. The taller pines had all been left behind but smaller, more limber

ever thinning groups, their branches blown leeward. We walked over mounds of coarsely broken obsidian that resembled heaps of broken bottles which, to our surprise, did not cut into our boots as badly as had the commoner type of lava we had encountered on other volcanic mountains, the iron-like masses pitted with airholes.

When one sees, side by side, the smooth, glossy black of obsidian and the grainy gray of granite, it is hard to believe that they are made up of essentially the same elements. Obsidian pushes up out of a volcano in a mass too viscous to crystallize and cools rapidly with a minimum of airholes. Granite also begins as hot magma but cools slowly, underground, and crystallizes.

Since obsidian was a valuable raw material to the early Indians for arrowheads, spear points, knives and hide scrapers, we kept scanning the ground for "worked" pieces. Ken Rich found a flake that showed signs of working but further search yielded no others. Others found pieces with gray bandings and some of mottled red.

The Paiute Indians who used to inhabit Owens Valley in large numbers and whose descendants still live there, traded obsidian with coastal tribes for shells, and with inland tribes for hides. When an Indian found a new source of obsidian he didn't stake a personal claim to it. It belonged to the tribe as



Forty-one Sierrans reached the 11,127-foot summit of Glass Mountain, California, on a weekend hike last spring.

lem of avoiding boulders, usually present on scree slopes, was almost absent on this one. Even the sixty-year-olds in the party slid down with an abandon that belied their years. It was the most exciting scree-run we had ever encountered, losing over a thousand feet of elevation in 15 minutes. Obsidian chips rang like Chinese chimes as clouds of powder billowed about the hilarious queue. When Ken Merton, nine, finally ran out of slope he holstered, "Let's go up and do it again, Pop!"

Had time permitted, Pop and the rest of us would have agreed. It had been an easy climb up, a fast slide down Lloyd Balsam's intriguing Glass Mountain.

SEARCH OF CHAPEL RUIN MAY FIND KINO'S GRAVE

NOGALES—Just across the border from here, at Magdalena, Sonora, Mexico, archeologists are unearthing what they believe may be the grave of Father Eusebio Kino, builder of Spanish missions in the Southwest. The search is being conducted at a ruin believed by its discoverer, Col. Gil Proctor, U. S. Army, Ret., to be the chapel of San Francisco Xavier, where eighteenth century historians recorded the priest died and was buried in 1711. The ruin follows the floor plan of the usual religious center in the old Southwest — chapel, vestry, priest's room and enclosed courtyard used as a cemetery.—*Phoenix Gazette*

Picture-of-the-month Contest . . .

Amateur and professional photographers have been recording the desert spring more thoroughly this year than ever before. Among those photos will be winners in solons and contests from one coast to another and from border to border. Some will also take prizes in the Desert Magazine Picture-of-the-month Contest. Is yours a prize-winner? As long as it is a picture of the desert Southwest—an unusual scene, a unique rock or tree formation, human interest, or perhaps an animal shot—it is eligible for the Desert contest.

Entries for the April contest must be sent to the Desert Magazine office, Palm Desert, California, and postmarked not later than April 18. Winning prints will appear in the June issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5. For non-winning pictures accepted for publication \$3 each will be paid.

HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA

HOME ON THE DESERT

Water, Work and Zucchini . . .

By RUTH REYNOLDS

WHEN I FIRST came to Arizona some 20 years ago I took one look at the desert around me and condemned it as any kind of gardening spot — or garden spot. Like most new-comers, I regarded its vegetation with a pitying eye and a closed mind. "Poor things," I thought, looking at the scrubby trees—dwarfed and scantily foliated — and the strange, stunted bushes straggling over the cactus-dominated desert side.

Just when my attitude began to change I do not remember. But I do recall the long-ago day when a young Mexican girl looked out of the bus window as we neared my house on the outskirts of Tucson and exclaimed to her companion, "Look! Oh, look out there! Is it not a God-forgiven place?"

She had of course simply mistranslated the old term of condemnation, but her phrase pleased me, and from that day on I have thought of my adopted homeland not as a God-forsaken but a God-forgiven land. I have forgiven the desert its sins, which were not sins at all but its own peculiar virtues. And I soon learned to have great respect and a feeling that amounts almost to one of kinship for its growing things that survive against all odds.

When we—my husband, our three small daughters and I—moved into our first (and present) home I barely knew the mesquite tree in the back yard for what it was, and the funny, straggly, smelly bush beside it as a greasewood.

Years later, during World War II, it was there under that same mesquite tree that I started a small vegetable garden. A venture not too successful at first but one so fascinating that I am still gardening.

Naturally I had a little to learn. A little? Well, I was from Missouri, and I knew how to make a garden—in Missouri. Come spring, you bought some seeds—radishes, lettuce, onions, all sorts of vegetables—and you got the garden plowed and prepared and you planted the seeds and let them grow.

To change over to desert gardening all I had to do was substitute the spade for the plow and my husband for the plow horse and proceed according to directions on the seed packet. I knew of course that I couldn't just let the garden grow—I had to make

NEW DEPARTMENT FOR DESERT HOME-MAKERS

This month, *Desert Magazine* introduces to its readers a new contributor — Ruth Reynolds of Tucson, Arizona, who writes informally of her experiences in home-gardening on the desert. This department, "Home on the Desert," is to be a regular feature in future months. Mrs. Reynolds, in cooperation with *Desert's* staff and with suggestions from readers, will discuss not only gardening but also other phases of the art of creating convenience and beauty in desert homes. Readers are invited to send in ideas from their own experiences in desert living. (See Randall Henderson's editorial on native shrub experiments in the March issue.)

it grow, with water chiefly. So I made rows, rather neat ones as I remember, and planted radishes, lettuce, beans, spinach and squash.

We didn't like squash. But I'd heard that the Southwest Indian tribes had grown it centuries ago in desert soil, so my garden included squash. It was just as well, because the squash grew and its yield was gratifying. The radishes too did well—down at the end of the row where the washed-away seeds lodged. The beans, all 16 pods of them, had an excellent flavor; the spinach (planted too late in the season) went to seed while I was waiting for it to grow up. The lettuce didn't have a chance. It came up—also down at the row-end—but Arizona birds are hungry and fond of lettuce. After they had finished mine they took off for green lettuce fields in other parts of the state, I'm sure.

Since that first year I've never tried to compete with their ravenous appetite for young lettuce leaves, or with the commercial lettuce growers.

But home growing elevates many merely tolerated vegetables to the favorite foods class. Take squash, for instance. We like it now — several summer varieties of it, including Zucchini and yellow straightneck (Early Prolific). Prolific it is, too, so easy to grow. I've learned many ways to serve

it—and so have the neighbors. My husband is, I believe, mistaken in suspecting them of hiding behind closed doors when they see us coming during the squash season.

Still, this spring I'm planting only two varieties and only two hills of a kind because it becomes even more prolific as I learn more about gardening.

One of the first things I learned was to get the garden out from under that mesquite tree. But it did grow so beautifully! The tree, I mean. I guess it had been thirsty for a long, long time. And the second year it took to the commercial fertilizer better than the vegetables did—or else its roots just got a head start and didn't leave any for the vegetables. Still I recall they didn't do so well in the new garden plot either, the year I used only commercial fertilizer because I didn't want the weed and grass seed that come with barnyard manure.

That was another thing I learned early. New methods of artificial plant feeding—even with no soil at all—may be just around the corner, but until we round that corner there is no substitute for manure for building up and maintaining soil productivity — in a desert garden.

But fertilizing can be overdone. I have had plants, tomatoes and beans especially, so over-fed and over-watered that they grew into beautiful luxurious vines with no tomatoes or beans. My rule-of-thumb, that works pretty well, is 100 pounds of well rotted manure to one pound of superphosphate for a plot of 200 square feet, with frequent (three times a week) fairly shallow watering. And sunshine. Any vegetable that can't take full sun has no place in a desert garden.

And no garden's place is in the shade—especially not in the shade of a mesquite tree—with a greasewood beside it.

Which brings me to the only real disaster of my gardening career. I killed the greasewood bush. Whether it was with water or fertilizer or both I do not know. But it died and I was sorry.

My only consolation was a scrawny bush just across the fence in our neighbor's yard. But our neighbors soon moved away and a big-city couple bought their house. To my dismay, I caught her, right off, trying to eliminate the greasewood.

Something had to be done. Assuming my most neighborly manners, I ventured to intercede for the bush.

"You like it?" she asked me.

"Yes," I said, "I like it. If it were mine I'd leave it."

"But why?" she wanted to know. She was a New Yorker and I wasn't going to like her, I thought. But I tried to explain. "It's kind of pretty—or could be," I told her, "and it smells good, when there's rain."

She looked at me strangely for a moment and then she smiled and said, "If you like it we will leave it." And I knew her for the good neighbor she has proved to be.

To this day she probably doesn't know that "our bush," which forages on both sides of the fence and thrives beautifully, is actually a creosote bush—resinous, slightly poisonous, known to native desert people as "little bad smeller" but commonly called greasewood.

WORLD DESERT SYMPOSIUM DUE APRIL 26 IN AMERICA

"The Future of Our Arid Lands" is the subject of a symposium to be attended by experts from all over the desert regions of the world April 26 to May 4 at Albuquerque and Socorro, New Mexico, sponsored by the United Nations UNESCO, the Rockefeller Foundation, National Science Foundation and the American Association for the Advancement of Science.

It will be the first world conference on desert problems ever to take place in the United States and will be attended by hundreds of the foremost leaders in desert research from Australia, Africa, Asia, Europe and the two Americas, according to Victor H. Schoffelmayer, member of the Desert and Arid Land Committee, AAAS.

Head of the symposium is Dr. Peter C. Duisberg, well-known desert researcher of El Paso, Texas. One entire day, April 29, will be devoted to roundtable discussions open to the general public. A two-day field trip, including geology and ecology excursions to Estancia Valley, White Sands, Gran Quivira, Jornada Experiment Range Station, the "Malpais" lava formation near Carrizozo, is scheduled for April 30 and May 1.

The conference is to open at the University of New Mexico. John L. Hay, chairman of the Committee on Education, 1007 Robinson Blvd., El Paso, Texas, states that people of the southwest are invited to attend these important meetings. Hotel reservations and information can be obtained from Hay.

THE *Desert* MAGAZINE CLOSE-UPS

When Nell Murbarger, author of this month's "Lost Hardin Silver: Mystery or Hoax?," completed the round trip to Hardin City, it had been a vague trail she followed at best. Ed Green, her guide, said, "I wouldn't go over that road again for a million dollars!" But Miss Murbarger had other ideas. A month later she needed accurate measurements for the *Desert* map of the road and back along the 500-mile trip went the author and Ed Green. Miss Murbarger, of Costa Mesa, California, has just collected five top awards from the California Association of Press Women for the best literary material published by California women writers during 1954. Her "Josie Pearl, Prospector on Nevada's Black Rock Desert" (*Desert*, August, 1954) took first place in the interview classification for both newspapers and magazines, and will qualify for national competition in July.

Harold O. Weight (author of this month's "Doodlebug Trail into Agate-land") is in the enviable position of having all his hobbies become a part of his work as a writer. Weight, who lives at Twentynine Palms, California, with his author wife Lucile, lists among his hobbies: Americana book collecting, history research, ghost towns, rock collecting and cutting and polishing, photography, desert travel, camping and hiking. Rock hunting isn't all work in the sun, though, he explains. Last February 2, he and his wife were caught in a first-class blizzard-type snow storm in Arizona while crossing the Black Mountains between Davis Dam and the Kingman Road.

When the editors of *Desert* first corresponded with O. E. Singer, author of this month's "Navajo Medicine Man," there was a natural inclination to communicate with a "Mr. Singer." It didn't take long to receive the amusing reply: "Great shades of cacti, Mr. Editor, I'm female! . . . I assure you the use of initials was not meant in any way to conceal my sex. It just seemed simpler to use them." To verify her statement, Mrs. Singer listed a husband who is a Santa Fe Diesel engineer, two children, two grand-children and a Boston screw-tail bulldog.

New to *Desert* readers, she has sold articles to numerous other magazines and is currently working on a Western novel set shortly after the Civil War.

A resident of Winslow, Arizona, Opal Edna Singer has lived 28 years on the Arizona desert, numbers among her friends many Navajo, Hopi and Apache Indians. She is a member of the National Press Women and at the Arizona Press Women's 1954 convention in Phoenix was presented with the First Award for best news story published in a magazine.

Alhambra, California, housewife Louise T. Werner, author of this month's "We Climbed Glass Mountain," took up mountain climbing because that was one of the favorite hobbies of her husband, Niles. At present Mrs. Werner is aiding the desert peaks section of the Sierra Club in its move to have the Forest Service declare the northern portion of the White Mountain Range of California and Nevada a Wild Area, to protect it from unnecessary road building. The area, she explains, abounds with specimens of miniature alpine plants, Indian artifacts, sage hens, horned larks, rosy finches and wild horses.

A. M. Russell, 5143½ Almaden Drive, Los Angeles 24, California, is better known to his friends as Panamint Russ ("Life on the Desert," this issue). Russ has extended an invitation to anyone ready and willing to share his Good Faith and opportunity: "That little prospect has laid idle long enough! Now that there is peace again—no gasoline shortage, no war hysteria—there might be someone who would drift out to the Panamints, do a little window shopping, meet real people, let their blood pressure get back to normal and even decide to help me finish that tunnel."

Norton Allen is the artist-cartographer who has been drawing *Desert Magazine's* popular maps for 17 years. Norton is a very modest young man—so modest in fact that when he slipped off to Fredonia, Arizona, last summer and returned to his mountainside home at La Mesa, California, a few days later with a bride, he neglected to mention this event to any except his most intimate friends. But the truth finally came to light—and now *Desert Magazine* can make a belated announcement of the marriage. The bride was Ethel Crane, a New Jersey girl who came West 12 years ago, taught school in Brawley, California, and then returned to Columbia for her master's degree in education. Norton's main hobby for many years has been archeology and he has one of the finest private collections of artifacts in the Southwest. Fittingly, the bride wore a Zuni ring and prehistoric pueblo turquoise at the wedding ceremony.



SUNRISE

By ANONA MCCONAGHY
Downey, California

I saw a desert sun arise
Above a barren land,
The glory of the flaming skies
Was like a silver band
Which squeezed my heart—
a tightening
That made my breath come fast;
So brief a time, a perfect thing—
But mine while life shall last.

• • •

THE ANSWER

By SARAH PHILLIPS SALINGER
Santa Barbara, California

I'm not sure that this is the answer
But it does, in a way, satisfy
When I think of the size of a desert
And question the wherefore and why?

As I watched a breath-taking sunset
My question found ample reply —
I saw that the size of the desert must be
Plenty-big, to make room for the sky.

• • •

CLASSWORK

By DARRELL A. TOTTEN
Las Vegas, Nevada

The desert is a teacher who portrays
Odd vignettes of life in subtle ways.
Just walk a desert trail, alone, and know
Why Man has ever sought to learn—and
grow.
As tomb-like silence casts its formless spell
One finds, within his thoughts, heaven and
hell.
Far from the city's raucous, man-made din
The seeker finds true virtue and true sin.
Mind? — Is it more than just the human
brain,
Counting much less of pleasure than of pain?
Ask the desert. The teacher can explain!

Miracle In The Desert

By G. R. MARSDEN
Long Beach, California

When the sagebrush sweeps the cobwebs
From a man's neglected soul,
He can place the flaming sunset
On a candle cactus pole;
He can match the sky-high stature
Of a two-toned mountain king;
He can touch an early planet
In the necklace night will bring.
He can glimpse a sea of crystal
As he stands on golden ground;
He can hear the silence shouting
That a restless son is found!

• • •

THISTLE SAGE (*Salvia Carduacea*)

By MARGARET SHELTON
Vista, California

Remember the bare bleak rocks and shale
The home of the lizard and thorn?
Remember the blow of wind off the snow
And its wail of a soul forlorn?
Well, this is the stage for the thistle sage
Where it stands in its fierce grey spines.

Remember the sky of lupine blue
The clouds and the sun and the sand?
Remember the days when the poppies blaze
Like a sunset spread on the land?
Well, this is the place where the thistles
grace
Their full share in the pageant of spring.

(Purple ruffled petals like a can-can skirt
Flaunting urgent fragrance like a fresh young
flirt—
All around the flounces are stay-away signs
Made of wicked petioles and grey-green
spines.)

DESERT WONDERS

By LAURA A. LAVIGNE
Phoenix, Arizona

Dust-devils swirling o'er the land;
Strange entities born of the wind,
Arrayed in garb of soil and sand,
Bedecked with shredded leaves and straw.

Pole-cacti thumbing "that-a-way";
Spike-armor standing straight and tall,
Mute sentries of an ancient day
Still guarding Nature's last frontier.

Cloud-wisps that travel to the north
For rendezvous on mountain top,
And wrapt in darkness sally forth—
A mighty coverlet of rain.

To me who by the desert live,
The wonder of these things is lost,
Til alien eyes in reverence give
Full measure to their mystery.

FAITH

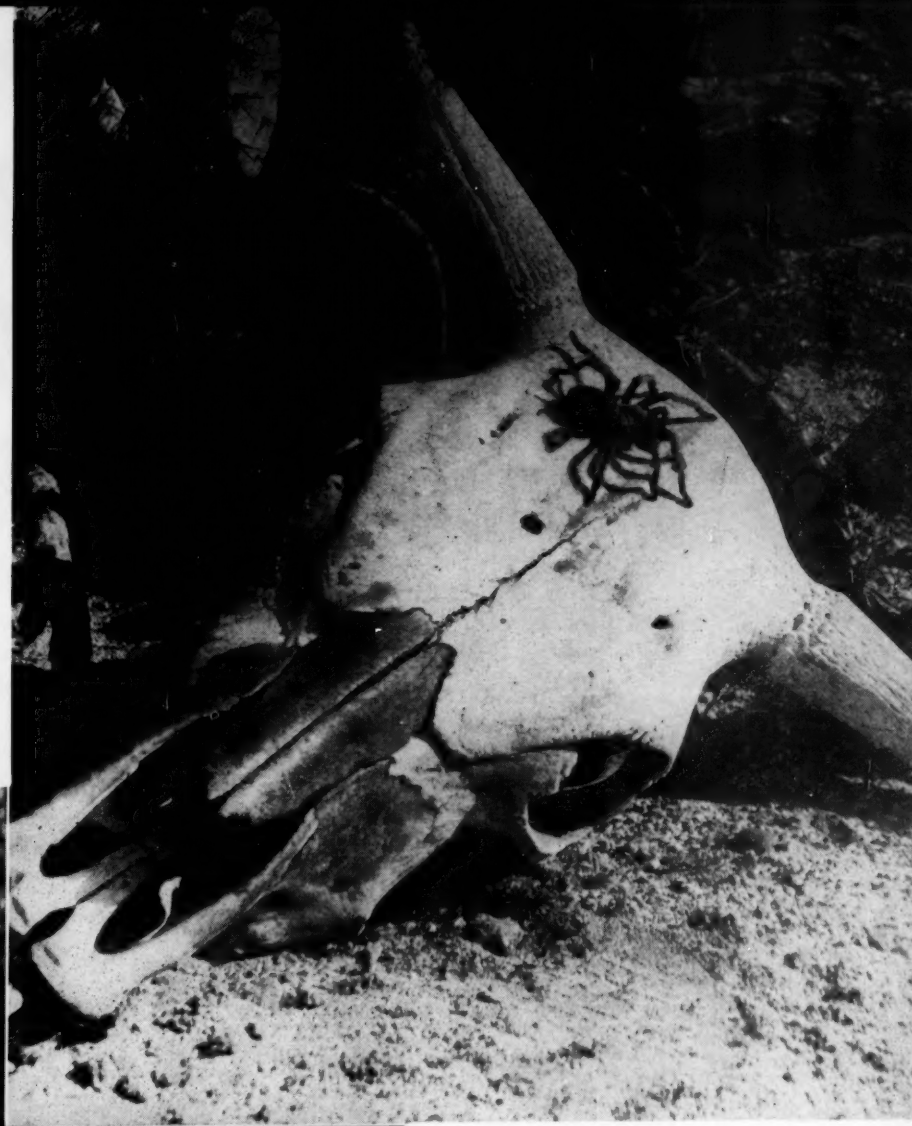
By TANYA SOUTH

Faith is the open door to Heaven.
And in your life it is the leaven
That recreates again your hope,
And brings a more enlightened scope.
Have Faith, dear heart. That much
God asks.
With Faith to guide, there are no
tasks
Too hard, no struggle over long,
Nor any wrong
Too difficult to override—
For Faith will guide.

Pictures of the Month

Desert Contrast

Don Cathcart, San Bernardino, California, was the winner of first prize in Desert's February Picture-of-the-Month contest. Don caught this unusual picture while rambling over the desert—a tarantula on the skull of a bovine, in a setting of cactus. Taken with a 3¼ x 4¼ Speed Graphic, 4.7 Ektar lens, 1/100 second at F:16, Super Pancro Press film.



Young Eagle

Second place winner in the February Picture-of-the-Month contest was Willard Luce of Provo, Utah. His subject is Drummer Clement Young Eagle of Jemez Pueblo, New Mexico, who participates in many of the Indian ceremonials. Photographed with a Super Graflex, 1/30 second at F:16. Medium Pan film.



Dugal Chee Begay, Navajo Medicine Man.

Navajo Medicine Man...

Small Man lay gravely ill on the pile of sheepskins on the dirt floor of his hogan. He was an old Navajo, and ready for the Happy Hunting Grounds. But there remained the hope that the Death Spirit could be thwarted by a chant or an herb, a sand-painting or a sacred potion—or at least the four-day trip to the after-life be made easier. So Small Man's relatives sent for the "doctor"—Medicine Man Dugal Chee Begay.

By O. E. SINGER

Photos by George C. Hight

MEDICINE MAN Dugal Chee Begay stood before his hogan doorway, facing the east. About his neck hung strands of silver jewelry and circling his waist was a fine concho belt studded with turquoise. From his ears hung long slender turquoise earrings. He wore his hat, a wide-brimmed, tall-crowned felt, set straight on his head.

With thin, graceful hands he beckoned to the rising sun, pulling its beneficial rays toward him, inhaling its sacred breath, in a prayer to heal and to bless.

He would need the blessing and healing power of the sun god, this day.

Only this morning word had come to him that Hastquin Yaze, Small Man, was ill and that his services were needed.

The sweat bath, taken by the sick man in a specially constructed sweat room, a hogan-like structure made of tightly chinked mud and logs, had done no good. Steam generated by water

poured on glowing red-hot stones piled in the center had billowed up mightily—but after Small Man had emerged, dripping with sweat, and had dashed cold water over his body to complete the treatment, the sickness still remained.

Small Man was old. How old only the gods knew. He had taken to his sheepskins on the dirt floor of his hogan, the messenger told Dugal Chee Begay, and could not arise.

As the medicine man turned to enter his hogan his eyes swept over the fat sheep in the corral. For his skill this day he would be paid as much as four sheep, a bolt of cloth, some silver and turquoise, depending on how long his services would be required.

Dugal Chee Begay was a good medicine man, thus a wealthy one. When illness struck, or the bird of evil omen, the owl, hooted nearby, or bad dreams troubled one's slumber, rich and poor alike sought his services.

Once inside his hogan, Dugal Chee Begay sat down cross-legged on his

sheepskin spread on the bare dirt floor.

Outside, over an open fire, his wife Mary prepared breakfast of mutton stew, fry-bread and coffee.

Taking up his medicine pouch, made from the skin of a deer killed without the spilling of blood, he reached inside and carefully and reverently took out a number of sacred items and placed them in a pile in front of him.

There were bear claw rattles, bits of animal tissue, beads, shells, stones, a piece of alien scalp, a tuft of hair, tiny bags of medicinal herbs gathered from mountain and plain, Mormon tea for the stomach, leaves of the barbary for rheumatic stiffness and, for sores, branches of the cancer root.

The medicine man handled the items carefully, and said a prayer over them asking forgiveness for disturbing them. To Navajos, all objects, animate or inanimate, are endowed with living spirits.

Dugal Chee Begay bowed his head and silently asked the healing gods to imbue the sacred objects before him



The Navajo sandpainting is a symbolic design carefully "painted" with brightly colored sands to help drive the Evil Spirits out of the patient. The design must be destroyed at sundown.

with great power, to make them stronger than ever before.

He sat, head bowed, deep in meditation, until Mary spoke from the doorway, telling him that hot food awaited.

Breakfast over, Dugal Chee Begay rose and saddled his horse. To the back of the saddle he tied a bright Pendleton blanket, his constant companion summer and winter. In summer, the blanket, worn over his shoulders, kept out the heat and slung over a limb of scrub cedar, afforded shade. In winter, it warmed him. Caught in a winter's night, he would scoop out a trench in the earth the length and breadth of his body, build in it a fire of cedar limbs or rabbit brush, and allow the fire to burn down into ashes. Bedded down in the hot ashes, rolled in his blanket and covered with dirt, he would sleep snug and warm.

Mary had "done the dishes" by scouring blackened pots and pans with

fine sand, and had shaken the sheepskins that were their beds and slung them over a rabbit bush to sun and air. Now she sat at her loom, in the shade of a scrub cedar.

Sitting cross-legged on a blanket spread on the bare earth, wearing a bright velvet blouse and ankle-length, full-gathered skirt, the Navajo wife's nimble fingers drew the yarns back and forth across the width of the loom. As she worked she kept an eye on the sheep that grazed nearby.

Dugal Chee Begay took up his medicine pouch and mounting his horse, rode away from his home in the Black Mountain region to be gone one day, nine days, two months—Mary never knew—for many times he was called directly from one sick bed to another.

He did not look back. Mary would guard the flock well and care for the cornpatch that glistened green in the morning sun at the foot of the ridge.

She was an industrious and faithful woman.

Mary watched her husband until, crossing over a ridge, he disappeared from view.

It was a half-day's journey by horseback to Small Man's camp. The medicine man urged his mount gently with his heels until billows of dust whirled in their wake.

As he rode, his mind went back to the days of his apprenticeship when, as a boy, he had been coached as a singer by an aging uncle, a prominent medicine man.

Dugal Chee Begay had been chosen as a pupil by the Old One because of his quickness of mind and his natural aptitude for the singing of songs. Under the Old One's instruction, he memorized the many songs and chants, learned to construct the intricately beautiful symbolic sandpaintings and to make prayersticks of willow, feather-tipped and carved particularly for the



Navajo Medicine bag in which are kept the sacred items used by the medicine man to minister to his patients. The bag is made from the skin of a deer killed without the spilling of blood, preferably by suffocation with sacred pollen.

god to whom the prayer would be offered. He had also learned how to diagnose illnesses and to distinguish the healing herbs one from another, when to gather and how to brew. Through this knowledge he since had driven many evil spirits from the bodies of his people.

He thought of Chala Tso, Big Charlie, who had accidentally killed a snake. The spirit of the snake had entered Big Charlie's stomach, he could feel it squirming about, he said, and it was causing him great pain. He sent for Dugal Chee Begay.

It had taken a nine-day sing and four assistants to drive the snake's spirit from the man's stomach. It had required many prayersticks, the construction of a sandpainting and the blackening of the patient's body from the soles of his feet to the top of his head with a brew made from the ashes of burned foxtail and pennyroyal.

It had been a big sing, with the man's relatives helping with the expense. It had taken a lot of coffee, fry-bread and mutton to feed the visitors who came to help. All who came had donated to the feast, as each one attending would derive some benefit from the rite.

The Navajo sing is more than a healing session, it is a social affair as

well, a time of feasting and visiting with friends and relatives not often seen. Navajos do not live in villages but in scattered isolated family groups near ranges or beside a waterhole. To visit with a neighbor means a long ride.

Big Charlie was a man rich in relatives, horses and sheep, and his sing had netted Dugal Chee Begay 12 sheep, two ponies, a bolt of bright velvet, two rugs and a small bag of raw turquoise.

That had been four days ago. Now the medicine man was on his way to the hogan of Small Man, who could not arise from his sheepskin.

Fine particles of sand cut Dugal Chee Begay's face and he pulled his hat lower over his eyes as the wind sent a sudden gust whistling through the scrub cedar, flushing a dust devil that scuttled erratically away. An evil omen, the dust devil could bring drastic misfortune should it cross his path. Dugal Chee Begay followed it with his eyes and sighed for his people who were constantly beset with the ever-present Evil Ones. As a medicine man, it was his responsibility to counteract the harm they wrought.

Crossing a deep arroyo and, topping a rise, the rider suddenly came upon the hogan of Small Man, tucked under a ridge in a clump of scrub cedar.

The journey had taken longer than he had anticipated. It was now far past mid-afternoon, and a group of the sick man's friends and relatives stood about the clearing. As he rode into camp, the eyes in their solemn faces strained toward him anxiously and, when he had stiffly dismounted, one came forward and quietly led his horse away.

Going over to the hogan of Small Man, Dugal Chee Begay lifted the blanket that covered the doorway and stepped inside.

Small Man lay upon a sheepskin in the Southwest corner. His eyes, sunken in a face criss-crossed with the lines of many years, were closed. His mouth hung slack and slightly open, his breath a dry rattle in his throat. A bright headband held in place the thin, straggly hair that he wore cut short at the ear lobes.

On the north side of the hogan, Small Man's two wives sat on sheepskins. The stark fear on their faces gave way to relief as Dugal Chee Begay entered and sat down quietly by the side of Small Man. Would his power be strong enough to stay the hand of the Evil One who had stamped the face of Small Man with the mark of death? If not, as a Medicine Man he could give comfort to his going, and make easier the perilous four-day crossing over to the Happy Hunting Grounds.

There was no time for elaborate ritual. For a silent moment Dugal Chee Begay sat with head bowed. Then he began to chant:

There is no Evil in You

It is gone . . . It is gone . . .

Outside, the men's voices joined that of Dugal Chee Begay, the wailing cry filling the dying day and on into the night.

As the chant rose from the lips of Dugal Chee Begay in a long, last cry, then died away in silence, the watchers melted away on silent feet as quickly as though the hand of a magician had wiped them suddenly from the landscape.

Left with the dead in the now silent hogan was only Dugal Chee Begay, head bowed in silent resignation.

Now he, too, rose and, lifting the blanket that covered the doorway, stepped out into the night. Mounting his horse, he merged into the shadow of scrub cedar and was soon lost to view.

If no post trader or friendly white man could be found for the task, the dead man's relatives would return, reluctantly and fearfully, to perform burial rites and to destroy the hogan. The place, now the habitat of malignant spirits, would be taboo forever.

Fish That Thrive In Cactus Land

By PHYLLIS W. HEALD

Photo by Weldon Heald

NONA B. MOTT laughed at my amazement when we entered the room. "It's a different world from outside, isn't it?"

"Outside" was the southern Arizona desert in the heat of summer. Inside, in Nona's aquarium room, it was warm and damp with the sticky moisture of the tropics.

I looked at the rows of tanks lining the four walls, leaving only enough space for a door and a single window. There must have been 30 of them, ranging in size from five to 50 gallons, standing on shelves which rose from the floor to shoulder height.

Each tank held darting specks of brilliant color which sparkled like prisms in the light-flecked water. It was as though a rainbow had suddenly turned to confetti and had broadcast the vivid bits throughout the room.

What a strange hobby, raising tropical fish on the desert, I thought. And yet how refreshing were these water pets in a land so utterly dry.

I had met Nona B. soon after her husband had bought their ranch at Hereford, Arizona. But we didn't know each other very well, meeting only now and then in a casual way. I knew Mrs. Mott was interested in fish, but until I walked into that specially designed and insulated room, I had no idea how thoroughly—and professionally—she pursued her hobby.

My hostess indicated a bench, and I sat while she moved from one tank to another, gently disturbing the surface water to coax her pets into view. Each aquarium held a miniature water garden as well as fish, and the waving greenery provided perfect background for their movement.

"I have always loved water and the wiggly plants and creatures that live in it," Nona explained. "When I was 11 I had mumps and my beau gave me a bowl of goldfish. I was crazy about those fish. But then I let them die."

"You 'let them die'?" As I asked the question I thought Nona B. must have looked at the age of 11 very much as she does now. With her dark hair cut short, red pedal pushers and a sports



Nona B. Mott of Hereford, Arizona, with some of the tropical pets she raises in the desert. Mrs. Mott's aquariums range from five- to 50-gallon tanks; this is the most popular size for small home units. Usually more densely planted with water greenery, the tank in the picture has been cleared better to show its fish tenants.

shirt with an aquatic design, the impression she gave was more that of a teen-age tomboy than a housewife and mother.

"I didn't realize they weren't getting enough air. Fish live on the oxygen they breathe from the water, you know. That's why aquariums are usually square or oblong in design, to give as much surface space as possible. After those fish died I decided to learn more about them. So you might say I've been an aquarist for—for 25 years." And she smiled as she watched me do some mental arithmetic.

I studied Nona B. as she quietly moved among her water babies. She would stop at a tank and tickle the water (no aquarist would ever tap the glass) until strange, exotic little creatures came forth from under greenery or rocks. Among the 500 or more fish in the room she showed me angel fish, gorgeous, expensive (\$25 a pair) and hard to raise; guppies, tiny, colorful, hardy and ranging in price from 25 cents to \$15, and gouramins, the funny looking clowns of the marine world. These water comedians will cling to each other by kissing, then twirl and turn somersaults like pairs of acrobats.

Can you wonder I was confused

Nona B. Mott's hobby—tropical fish — seems out of place on the Motts' ranch on the Arizona desert. But she has made a successful business of her pastime, and she finds her colorful tanks refreshing and decorative in a dry and thirsty land.

when finally I stepped out into the summer afternoon and faced my normal world of cactus, ocotillo and devil's walking stick?

Nona B.'s unusual hobby venture is a success, and it is proving that raising tropical fish on the desert can be profitable and practical as well as fun. She sells to fellow-aquarists from all parts of the country, who do not think it a bit strange that southern Arizona tanks should breed species whose natural habitat is the Amazon River or Africa.

As Nona B. explained it herself: "The most thrilling thing about raising tropical fish here is the pleasure and interest the local people get from seeing them. Strangers stop by all the time and lots of kids are working to earn money to buy aquariums. You know," she added seriously, "desert homes should have aquariums built in them. Water is always refreshing to look at, especially in arid country, and with the addition of plants and a few fish it is delightful decoration, with life as well as color."

• • •

JUDGE DECREES INDIANS MUST OBEY STATE LAWS

ST. JOHNS — Navajo Indians are subject to the laws of Arizona and "must obey them," Superior Judge J. Smith Gibbons of Apache County ruled in the case of Hugh Lee versus Paul and Lorena Williams. Lee, of the Ganado Trading Company, had seized Williams' sheep as settlement of a debt he claimed the Navajo couple owed him. The Navajo Tribal Council came to the defense of Williams, claiming the attachment of the sheep by Apache County Sheriff John Crosby was illegal because it took place on the Navajo Reservation and therefore was out of the county's legal jurisdiction. Judge Gibbons said in his ruling that Indians are qualified as voters, jurors, legal witnesses and are therefore citizens of Arizona as well as of the United States. "As citizens of Arizona they have the right and do participate in making the laws, and it is axiomatic that those who make the laws must obey them in a democracy," he said.—*Yuma Morning Sun*

Lack of February Rain May Hurt Flowers in Some Areas

With February rainfall well below normal in most areas of the Southwest, wildflower predictions which originally called for the most outstanding display in years have now been somewhat tempered.

Cold weather has also retarded blooming to a point where forecasters estimate the season's peak somewhere between March 15 and April 15 in the low deserts and slightly later in higher deserts.

Joshua Tree National Monument, Twentynine Palms, California—Monument Superintendent Samuel A. King stated that no appreciable rain fell during February, with the result that the annuals which germinated during the month may dry up and wither at the lower elevations, while moisture at higher elevations (4000-5500 feet) appears to be holding, indicating a fair to good display of annuals around April 1. Annuals now up are the Spencer primrose, mentzelia, chia, frost mat, mustard buckwheat and forget-me-not.

Borrego State Park, California—Park Supervisor James B. Chaffee re-

ports that wildflowers will be best in late March and early April. The dune primrose, sand verbena and chuparosa started nicely. Desert lily growth appeared heavy "which, according to the oldtime residents, is a very good indication of an excellent wildflower season."

Death Valley National Monument, California—Indications are still good for a fine floral display, according to Fred W. Binnewies, Monument Superintendent. Already blooming are phacelia, fiddlenecks, turtlebacks, Mohavea, white primrose, desert sunflower, brittle bush and Salsia funeria. Best display of wildflowers will occur between the middle of March and middle of April.

Saguaro National Monument, Tucson, Arizona—Indications in this area now foretell no better than an average display of wildflowers, according to John G. Lewis, Monument Superintendent. New minimum temperature records were set many days during February, delaying the blossoming.

"We expect conditions to be best

during the first two weeks of April," said Superintendent Lewis.

Casa Grande National Monument, Coolidge, Arizona—Monument Superintendent A. T. Bicknell reports that this area should have a good display of wildflowers due to rainfall during February. Cold weather during February, however, delayed the blossoming somewhat.

Lake Mead National Recreation Area, Boulder City, Nevada—One of the most promising wildflower forecasts is that of O. L. Wallis, Park Naturalist.

"Clouds which delayed the atomic experiments brought moisture to southern Nevada which should assist in producing an excellent wildflower display in the Lake Mead region in April.

"The landscape from Boulder City to the shores of Lake Mead will be matted with pincushion flowers, desert dandelions, purple phacelia and sun-cups.

"At higher elevations on the plateau country, flowers and plants, such as the Joshua tree, desert mariposa, cliff rose, Apache plume, ocotillo, Palmer's penstemon and prickly-leaf poppy will be most prominent during May."

In other areas, Lucile Weight, of Twentynine Palms, California, indicates prospects are particularly bright for a good wildflower display in the upper desert. Chuparosa, annuals, and beavertail and strawberry cactus should be especially beautiful. Upper Coachella Valley along Highway 99 to Whitewater also showed luxuriant growth. However, grazing sheep had completely destroyed flower plants in much of the San Geronio Pass area.

Another to report wildflower destruction by sheep was Mary Beal, Daggett, California, who indicated that the grazing over the past two years would take many years to remedy. Freezing temperatures and lack of rain have also been unfavorable conditions for wildflowers. Bachelor's button, desert dandelion, gold star, fiddleneck, phacelia, lilac sunbonnet, little butterfly, desert sunflower and five-spot mallow are the wildflowers to be found in the district in April.

Jane S. Pinheiro reports that the Lancaster, California, area will be in bloom a bit later than the usual last of April this year. Elm trees bloomed about two weeks late, while fast-growing seedlings had not appeared by late February. Poppies, lupine, primrose and dithyrea should combine for a "very good wildflower season."

"April, May and June are the flower months here," said Mrs. Pinheiro. "The Hi-Vista Wildflower Festival is scheduled for April 17."

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LETTERS

Junipers and Junipers . . .

San Diego, California

Desert:

Your No. 6 question in February's Quiz may correctly be answered by the following colors of mature Juniper berries, depending upon which species is meant: reddish - brown, bluish, brown, orange-brown, blue, purplish, black, purplish-black!

California Juniper, *Juniperus californica*, our commonest species here-about, and whose seeds I have collected commercially for the past six seasons, show a reddish-brown color underneath the whitish bloom when they ripen in mid-September up on the Santa Rosas, near Jacumba, and east of Banner. Earlier, they are green when they are white or bluish under the bloom.

Utah Juniper, *J. utahensis*, also prominent in the Southwest, shows the same color, reddish-brown.

Much moister or colder climate species tend to be bluish. All your botanist readers will likely raise their voices on this. A one-juniper man won't stand a chance!

ELSIE W. CISLER

Elephant Rock . . .

Los Angeles, California

Desert:

In your February issue you describe the Valley of Fire and one of the stone elephants (p. 25) and also show a picture of the other stone elephant on page 26. Why doesn't someone tell the public where the second one is located? It is a much better elephant than the one on page 25.

There is no sign to call attention to it (unless it has been placed there lately), while the first elephant has a sign near the road directing visitors to it. The one on page 26 is a considerable distance east of the other one, about 100 feet from the road on the north side (left side going toward Overton), about where the road in your map goes behind three peaks, about half way between "Atlal Rock" and "Boat Dock." The road at this point is narrow and crooked as it passes between big rocks so that if you are traveling at regular speed the elephant would be in view for only a few seconds and might easily be missed.

I get much information about interesting places to see from reading *Desert Magazine*.

JOHN V. FREDERICK

Sheephole Mountain Story . . .

Malibu, California

Desert:

On page 36 of February, 1955, issue of *Desert Magazine*, you list a "Lost Treasure Set." In the October, 1951, issue, you specify a story of the "Lost Ledge of the Sheephole Mountains," with a map.

We found the story in our issue, but have been unable to locate any map of the area. If there is any map available of the Sheepholes will you please advise — or is this a typographical error?

We continue to enjoy the *Desert Magazine*, and look forward each month to receiving our copy. We have had many enjoyable desert trips, most of them sparked by a "Desert" story.

ANNE P. MOORE

One place to locate such a map would be from World's Minerals, 2417 San Pablo Avenue, Oakland 12, California. (See advertisement, this issue.)—R.H.

Enjoy Field Trips . . .

North Hollywood, California

Desert:

Our field trip chairman, William H. Riley, has compiled a list of all the field trips that have appeared in your magazine from its first issue until October, 1954. Mr. Riley presented this list to our club at our January 18 meeting and it was quite a surprise to all of us. We greatly appreciate all the research work he put into it.

I am mailing a copy to every member who wasn't at the meeting, so that each of our 249 members will have one for ready reference.

I thought you might like to know about it. It proves we really enjoy and use *Desert*. We've gone on many good trips taken from it and really appreciate the excellent work put into it.

WALLY FISHER

L.E.R.C. Rockcrafters Club

Arizona Gets Yuma Back . . .

Yuma, Arizona

Desert:

In regard to the *Desert* February Calendar, page 3, February 12-13, Jaycee Silver Spur Rodeo, Yuma, California . . . I've been living in Yuma, Arizona, for 10 years and in Arizona for 29 years. First time I knew Yuma was in California.

Shame on you. Give us back Yuma.

MRS. C. M. EDWARDS

Although Yuma on numerous occasions has considered seceding from Arizona for one reason or another, Desert had no intention of hastening this action. Sorry!—R.H.

Rabbits, Sea-shells and Bottles . . .

Oklahoma City, Oklahoma

Desert:

Back to the subject of Mr. Rabbit eating trees, flowers, plants, gardens, etc., in letters from your readers.

I can pass on a method that an old Negro ex-slave showed me, to my great surprise. I planted and lost two gardens and all my new apple trees. Then old Otto planted and no rabbit came near. He took empty bottles, jugs, glass vessels and planted them about half way in the ground; one at each tree and on 10-foot centers around the garden. The slightest air current passing over the bottle makes a whistling sound that a rabbit can hear and is deathly afraid of. The human ear does not catch it, but the bunny's ear does.

One of those big spiral sea shells you put to your ear to hear the ocean roar will keep a jackrabbit 500 feet away. At least, this is all true in Oklahoma. If anyone tries it in other states, I would like to hear if it works elsewhere. Old gallon bottles are best.

MOORE C. HESS



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THE *Desert* MAGAZINE
 PALM DESERT, CALIFORNIA

MINES and MINING

Austin, Nevada . . .

Uranium Mines, Inc., is credited with the first shipment of uranium from Utah. The uranium, chiefly autunite and torbernite, was taken from the Rundberg property at Austin. *Territorial Enterprise*

Washington, D. C. . . .

A map of geologic structures of parts of Grand and San Juan counties in southeastern Utah has recently been reprinted by the Geological Survey. Copies are available at 50 cents from: Chief of Distribution, Geological Survey, Washington 25, D.C. *Mining Record*

Salt Lake City, Utah . . .

Uranium companies in Utah shipped more than 1,700,000 tons of ore to government receiving stations in 1954, according to the Utah Securities Commission. A \$75 million industry has been created in the past four years, with 31 companies actually mining and shipping ore. *Mining Record*

Window Rock, Arizona . . .

Land once thought useless is turning into a bonanza for the Navajo Indians, with uranium, gas and oil in large quantities present. Of the reservation's 15 million acres 720,000 are now under oil and gas lease, plus 35,000 under mining lease. The tribal council handles all lease money and requests for leases. *Mining Record*

Phoenix, Arizona . . .

In mid-1954 there were 197 mines operating in Arizona, according to Department of Mineral Resources report. Of these, 163 were metal mines, 34 non-metallic mines, while their estimated annual payroll was \$69,928,000. *Mining Record*

Pioche, Nevada . . .

Drain tunnel extensions in the Alta District into holdings of the Cardiff Mining Company, will make it possible for Cardiff to mine rich silver ore now covered with water. The project is expected to prove one of the biggest mining enterprises in recent Utah history. *Pioche Record*

Virginia City, Nevada . . .

Wasteful mining and milling procedures in the old days have made it possible to reprocess the Consolidated Virginia Mining Company dumps. There are an estimated million and a quarter tons in the dumps. *Territorial Enterprise*

San Francisco, California . . .

Historic gold site at Hunt's Gulch, south of Jackson, Amador County, is back in the spotlight as a body of ore in the old Hardenburg vein was uncovered with bulldozers in exploratory work. Millions of dollars in gold have been taken from the area. *Mining Record*

Grants, New Mexico . . .

Latest successor to the old-time burro is the helicopter. The Santa Fe Railroad's Haystack Mountain Development Co. is now using a rented helicopter to carry out air surveys of its uranium claims in the Grants area. *Territorial Enterprise*

Grants, New Mexico . . .

Uranium - Petroleum Exploration Company of Grants filed 348 claims in McKinley County in what was described as one of the largest single filings in New Mexico of uranium-rich ground. The claims encompass more than 6,000 acres in the Thoreau district. *Grants Beacon*

Santa Fe, New Mexico . . .

Dr. Waldemere Bejnar, geology professor at New Mexico College of Mines, has taken out the highest number of placer prospecting permits ever issued on New Mexico land, the land office said—1,078 of them, at a cost of \$25,460 for one year. He is looking for uranium. *Mining Record*

Baker, California . . .

Development of the world's richest deposit of rare earth minerals, used to toughen steel, is pacing mining activity in the Mojave Desert. A huge ore body of thorium, discovered at Mountain Pass, has been estimated at 50 million tons. *Mining Record*

Darwin, California . . .

Anaconda Copper Company's lead mines at Darwin, southern Inyo County, are now operating again following boost in lead price to 15 cents a pound. The mines were shut down for a year when the price dropped below 12 cents a pound. *California Mining Journal*

Sacramento, California . . .

A new print of the guide to the mining laws of California has just been issued by the Division of Mines. Copies are available at 15 cents plus tax from the California Division of Mines, Ferry Building, San Francisco.

Washington, D. C. . . .

Atomic consciousness has prompted a change in the law which forbade location and development of public lands which were already under lease for oil and gas development. One of the most important modern changes in mining laws, it clears the way for prospecting on about 60,000 acres of land, 13,000 acres on the Colorado Plateau. For over 30 years Bureau of Mines experts have held that mining claims could not be located on lands where other mineral leases were already in effect. With the great emphasis there now is on fissionable material, the government acted to allow more orderly development of all its resources. — *Yuma Morning Sun*

Grants, New Mexico . . .

A small town is growing up around Anaconda Copper Company's uranium mill five miles west of Grants. Anaconda is building 40 homes for workers' families at the mill, in addition to 10 more at its Jackpile Mine and 36 in Grants. The mill has its own airstrip for the two company planes which still are searching the area for more uranium deposits, its own well and, until a gas pipeline was put through, had its own coal mine on Mount Taylor. Now processing only limestone-uranium ores, Anaconda is building a second adjoining mill to process the sandstone type ores from its rich Jackpile Mine. — *New Mexican*

San Francisco, California . . .

San Francisco has won its fight to remain the administrative center of the Bureau of Mines' Region 2, California and Nevada, the Department of Interior announced. Reno, Nevada, had been suggested as a possible alternative site. Harold C. Miller will continue as regional director. — *Mining Record*

Moab, Utah . . .

A \$6,000,000 sale of the Blue Lizard group of claims in the White Canyon Mining District to Continental Uranium has been reported. Forty-three claims are said to be in the group. With the acquisition of the Blue Lizard, Continental's three producing mines at present have a total production of 3,500 tons of uranium ore per month. — *Moab Times-Independent*

Taos, New Mexico . . .

First uranium mining in Taos County began in the Penasco area when a crew of five men opened the Blue Feather claim for the Taos Uranium and Exploration Co. Spokesmen said they expect no sensational boom, but a steady development. *El Crepusculo*

Here and There on the Desert...

ARIZONA

New Route for Tombstone . . .

TOMBSTONE—A shorter route to Fort Huachuca and a new railroad passenger depot at Lewis Springs are goals of Army transportation personnel and the people of Tombstone. The Army has requested certain roads to provide easier access to the Fort. *Tombstone Epitaph*

Apache Study Completed . . .

SAN CARLOS—Development of the livestock, farming and timber industries and mineral resources will put San Carlos Indian economy on a more sound basis. This was the recommendation of the Stanford Research Institute of California in a 343-page report on conditions at the San Carlos Reservation. *Graham County Guardian*

Cheese Factory Opens . . .

YUMA—Latest addition to the industry of southwestern Arizona is the Arizona Cheese and Cattle Company's cheese factory near Yuma. Using milk from local dairies, the factory will produce Parmesan cheese. *Yuma Sun*

Water Source Studied . . .

Geologists may have found an unlimited supply of water for arid portions of northern Arizona in the 250-mile stretch of country known as the Mogollon Rim. The dry Painted Desert and Petrified Forest area appears to be covering underground rivers capable of supplying 30 million gallons of water daily. Already artesian wells in the district provide 80 percent of the region's irrigation water. *Grants Beacon*

Border Must Wait . . .

Arizona's constitution will not allow legislative action on a proposed new Arizona-California border, lawmakers have discovered. The constitution fixes the line midchannel in the Colorado River, but because of the shifting course of the river, this point is no longer definite. It will now be 1956 before machinery can roll to allow a special election to change the constitution and permit the Arizona legislature to enter agreements with neighboring states to change the boundaries. *Phoenix Gazette*

CALIFORNIA

Tramway Survey Advances . . .

PALM SPRINGS—A survey to determine whether or not a tramway from Palm Springs up the side of Mt. San Jacinto is still economically feasible is under way. The survey will show whether there will be sufficient traffic to finance the project. A similar survey, indicating that there would be enough traffic, was rendered obsolete by rising prices since the survey was made several years ago. — *Riverside Enterprise*

Airline Service Set . . .

THERMAL—Airline service for Coachella Valley has been approved by the Civil Aeronautics Board for Bonanza Airlines, which will begin a desert route between Phoenix and Los Angeles on April 1. Valley stops will be made at Thermal Airport, with another stop at Blythe.—*Coachella Valley Sun*

Report on Talc Deposits . . .

A new publication, Special Report 38, entitled *Geology of the Silver Lake Talc Deposits, San Bernardino County, California*, written by Lauren A. Wright, a member of the staff of the California Division of Mines has been released recently. The report discusses the geology and geologic history of the deposits located in the Mojave Desert. The report is well-illustrated and includes 3 large-scale colored maps in a pocket in the back. The 30-page booklet sells for \$1.00 plus three cents tax for California residents. Copies may be ordered from the Division of Mines office, Ferry Building, San Francisco 11, or purchased at the Ferry Building offices or the Division offices in Los Angeles at 217 West First Street, or in Sacramento in the Division's offices on the third floor of the State Office Building.

COUNTY MAPS --- State of California

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REAL ESTATE

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MISCELLANEOUS

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BUY SURPLUS boats, jeeps, trucks, airplanes, tools, machinery, radio, photographic, electrical equipment from Government. Send \$1.00 for Government Surplus Bulletin, Box D213, East Hartford 8, Connecticut.

Jeep Cavalcade Announced . . .

HEMET—Plans for the 1955 Hemet Valley Chamber of Commerce jeep cavalcade to Borrego call for the group to leave the Hemet fairgrounds at 8 a.m., April 2, arriving at Borrego camp site about 4 p.m. Participants will camp at Borrego Saturday night, where an entertainment program is planned. Last year more than 200 jeeps participated in the cavalcade. *Hemet News*

BACK ISSUES Desert Magazine: Dec. 1937—most of 1938 and 1939—complete volumes 1940 through 1955. Complete volumes Arizona Highways 1940 through 1955. All in excellent condition, like new. E. Wilmoth, 12082 Nelson St., Garden Grove, California.

FOR SALE: Extra large and complete set of Chemicals and Lab. supplies with complete study course put out by Duke's Research Lab., Hot Springs, New Mexico. For making quick, qualitative analysis, of all minerals. For sale at one-half of cost. Mr. Witte, 6224 Lewis Ave., Long Beach 5, California. Phone 23278.

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URANIUM MAP of Southwest. Geiger counters, scintillators, snoopers, \$29.95 up. Free catalog, or better, send \$1.00 for authentic uranium map of Southwest Desert and catalog. Harry's Geiger Counters, 360 So. Hawthorne Blvd., Hawthorne, California.

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COMPLETE BOUND SET of Desert Magazines, \$40.00 C.O.D. L. B. Hunsaker, 4447 7th Street, Riverside, California.

Valley Snow Unusual . . .

DEATH VALLEY—Early January snows in Death Valley startled many tourists in the area. Snow, falling at the 1,000-foot level made chains necessary for autos to negotiate stretches of the highway over Townes' Pass. *Inyo Independent*

Salton Park Dedicated . . .

COACHELLA—Dedication of one of California's newest state parks took place on the shores of the Salton Sea on February 12. The Salton Sea State Park is located just south of Mecca on the north shore of the great inland body of water. *Coachella Valley Sun*

Mojave Survey Begins . . .

BARSTOW—An industrial survey of the Mojave Desert area has been started by the Quinton Engineering Co. of Los Angeles to determine the present industrial land use and the potential. The study is being sponsored by the Mojave Valley Chambers of Commerce. *Barstow Printer-Review*

NEVADA

Last Train Preserved . . .

CARSON CITY—Last locomotive and three cars of the Virginia and Truckee Railroad will be placed on permanent display outside the Carson City depot. The locomotive is No. 27, a ten-wheeler built for the V and T by Baldwin in 1913 which saw service on the final run five years ago. *Territorial Enterprise*

Blasts Affect Prospecting . . .

Geiger counters may click wildly in Western and Rocky Mountain areas, but prospectors have been cautioned not to become too excited since the clicking may be caused by nuclear experiments in southern Nevada. The Atomic Energy Commission issued the warning high background readings could be occasioned by the experiments which in the past have run as long as three months. *Goldfield News*

Progress Threat Averted . . .

VIRGINIA CITY—The Territorial Enterprise rested easier today as editors were assured by Bell Telephone of Nevada that Virginia City would be the "last community in the state to suffer the inconvenience and indignity of automatic phones." The paper announced that "the pestilence of what passes for progress will be spared Virginia City" and that "the oldest switchboard in the West and its effective service by operators would continue for some time into the future." *Territorial Enterprise*

Bill Protects Gamblers . . .

CARSON CITY—Nevada's legislature has now passed a bill to protect gamblers, instead of the public. It wasn't thought necessary, until two men used Mexican coins in Nevada's legal slot machines and no law could be found prohibiting it. The new bill will now make it illegal for the public to cheat the gamblers. *Phoenix Gazette*

Law Revision Sought . . .

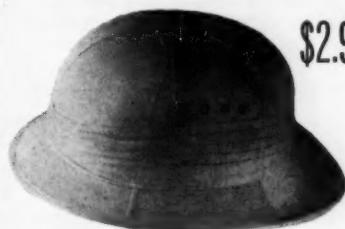
WASHINGTON—Misuse of mining laws to gain access to valuable timber lands and camp sites has been condemned by Nevada Congressman Cliff Young, who introduced in Congress an amendment to the Materials Act that would curb such action. His amendment would prohibit a mining claim on public lands when the claim is based on location of sand, stone, gravel, pumice, pumicite and cinders. *Tonopah Time-Bonanza*

NEW MEXICO

Wind Erosion Predicted . . .

SANTA FE—Serious wind erosion has been predicted for New Mexico during March and April unless good amounts of rainfall are received, according to the U.S. Weather Bureau. The Bureau said that cold weather and lack of moisture has kept winter grains dormant in the eastern plains creating conditions favorable to erosion. *New Mexican*

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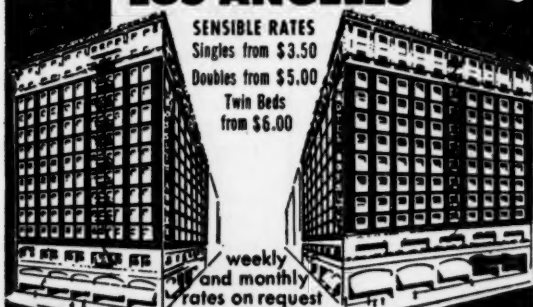
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Elk in New Home . . .

SANTA FE—State Game Warden Homer Pickens has turned housing official for 106 elk, which he moved from their Yellowstone homes to new homes in New Mexico for seed stock. One-third of the herd went to the Cimarron Canyon wildlife area in northern New Mexico with the remainder sent to the Gila Wilderness area in southwestern New Mexico. *New Mexican*

Fort To Be Monument . . .

Historic old Fort Union, the Santa Fe trail outpost, will soon become a national monument. The crumbled ruins of the fort will be restored, with work due to begin this spring. *Clovis New Mexican Press*

Indian Aid Necessary . . .

SANTA FE—New Mexican Indian tribes are not in favor of repeal of the 1934 Indian Reorganization Act and the New Mexico Association of Indian Affairs has urged Congress to kill the Malone Bill which calls for the repeal. The bill, which would allow three years for Indians to prepare for equal citizen status, was the subject of a meeting of the Association with Apache, Pueblo and Navajo tribal representatives. *New Mexican*

S.P. Plans Pipeline . . .

An 800-mile pipeline from El Paso through Tucson and Phoenix to Los Angeles will be laid along Southern Pacific railroad tracks in 1955, company officials announced. Southern Pacific will use this new method of transporting refined petroleum products—regular, premium and aviation gasolines, diesel oil and jet plane fuel. Southern Pacific Pipelines, Inc., a subsidiary of S.P. Railroad Co., will carry out the job. *Alamogordo Daily News*

Museum To Expand . . .

SILVER CITY—Expansion of the Mogollon Museum has been announced by Curator Marshall Walton to preserve all old-time New Mexicana available. The museum will also be incorporated into a non-profit organization with a self-perpetuating board. *Silver City Daily Press*

Rare Interview Found . . .

SANTA FE—A rare, if not the only newspaper interview ever given by Billy the Kid was discovered by George Fitzpatrick, editor of *New Mexico Magazine*. He came across it by accident two years ago while doing research at Highlands University on another project. When he went back later, the interview had been misplaced.

By the time Fitzpatrick finally found it, he was getting a little panicky that this gem of frontier newspaper reporting was lost forever. He penned an article on it for the September issue of the magazine. The interview, with an unidentified reporter, was in the *Las Vegas Gazette* for December 28, 1880. The *Gazette* had gone extra the night before on the capture of the Kid and other outlaws by Pat Garrett's posse at Stinking Springs. In the interview, the Kid said he had planned to skip the country before Garrett caught him. He also said "I haven't stolen any stock. I made my living gambling, but that was the only way I could live. They wouldn't let me settle down. If they had, I wouldn't be here today, Chisum got me into all this trouble and then wouldn't help me out."

Cattleman John Chisum, according to some chronicles, was the power behind the move which brought Pat Garrett from Texas to stamp out lawlessness after the Lincoln County war.—*New Mexican*

UTAH

Sierra Club To Tour River . . .

SALT LAKE CITY—Whether or not Utah Gov. J. Bracken Lee accepts, the Sierra Club plans five six-day trips this summer down the wilderness river trails of the Dinosaur National Monument area—land which will be partially flooded if Echo Park Dam were to be built. The club invited the governor to see with his "own eyes how indescribable the beauty is in this part of Colorado and Utah . . ." *Salt Lake Tribune*

Hite Ferry Quits . . .

HITE — "There's just not enough money in it," was the way Ilda and Elmer Johnson described their reason for quitting the Hite Ferry on the upper Colorado River. Lack of adequate school facilities for their children was another reason given. Without the ferry, which charged \$5 one-way plus 50 cents per passenger to make the half-mile run, motorists must drive 325 miles through Hanksville, Greenriver, Moab, Monticello and Blanding to get from Hite on the north bank to White Canyon on the south. *Ogden Standard-Examiner*

University Growth Continues . . .

SALT LAKE CITY—Nearly \$4,-425,000 in new construction and remodeling is proceeding on schedule at the University of Utah. The program includes a union building, classroom building, men's dormitory, maintenance shop, renovation of the boiler plant and conversion to gas of the heating system in Stadium Village. *Salt Lake Tribune*

APRIL IS WILDFLOWER MONTH

Know Your Wildflowers . . . Enjoy Your Hikes and Trips

April and the following weeks promise to be one of the most luxurious seasons for flowering cacti and wildflowers in the Southwest. Enjoy your hikes or serious botany rambles by knowing the names and habitats of the beauties of the desert. Tuck one of the following booklets in your pocket or have one of the authoritative books in the car for ready reference.

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FLOWERS OF THE SOUTHWEST MOUNTAINS, Leslie Arnberger..\$1.00
Booklet describing the many mountain species; illustrated.

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Desert Crafts Shop

Palm Desert, California

School Site Selected . . .

RENO—Regents of the University of Nevada have accepted a 60-acre tract near the Las Vegas strip for construction of a proposed southern Nevada branch of the school. A bill is pending before the legislature to authorize a \$200,000 bond issue for construction of a classroom building at the site. The land was a gift of Mr. and Mrs. Howard Wilbourn, Modesto, Calif. *Humboldt Star*

Daylight Saving Readied . . .

CARSON CITY—Nevada will join California in switching to daylight saving time from April 24 to September 25, Governor Charles Russell announced. Present Nevada laws allow the governor to invoke daylight saving time whenever he feels conditions warrant. *Humboldt Star*

Drought Break Seen . . .

The drought cycle in the Rocky Mountain region has passed its crisis and the area can now look for cooler, damper weather, according to Dr. Walter Orr Roberts, director of the Colorado University high altitude observatory at Climax, Colo. Roberts' studies of sun spots have convinced him that the next two or three decades will be drought-free. He said indications are mounting steadily that a 60-year drought cycle is being reversed. *Springer Tribune*

Fish Eggs Processed . . .

VERNAL — More than 6 million game fish eggs are now being processed through Utah's hatchery trays for eventual planting as fry, fingerling and legals. Hatchery facilities will work at their peak all year to process the two million brook, three million rainbow, one million brown and 300,000 kokanee salmon eggs. *Vernal Express*

ANSWERS TO DESERT QUIZ

Questions are on page 17

- 1—Superstition Mountains.
- 2—Mine.
- 3—Arizona.
- 4—Roadrunner.
- 5—Imperial Valley of California.
- 6—Copper group.
- 7—Cactus.
- 8—Billy the Kid.
- 9—Exploration of Grand Canyon.
- 10—Camel driver.
- 11—Joshua tree.
- 12—Cholla.
- 13—Painter.
- 14—San Francisco peaks.
- 15—Weaving baskets.
- 16—Tucson.
- 17—Verbena.
- 18—Hardness of minerals.
- 19—Humboldt River.
- 20—Gallup, New Mexico.

Hard Rock Shorty of Death Valley



A station wagon stopped in front of the Inferno store and a young woman came in. "What can we buy for a cold lunch?" she asked. "We brought a picnic basket with us, but the butter melted, the milk turned sour and I am afraid your hot weather has spoiled the meat."

Hard Rock Shorty, waiting on the trade while the clerk made a trip down to Barstow for supplies, waved at the shelves: "Lot's o' grub up there—beans, sardines, hardtack, coffee an' some o' that new-fangled canned ham . . ."

"But don't you have any fruit or fresh vegetables?" she asked.

"Naw, that stuff don't grow here. Tried it once—that is, my pardner Pisgah Bill did. Bill liked apples, an' he wuz always frettin' cause he didn't have none. Decided one day to grow 'em himself so he got one o' them nursery catalogs and sent out an'

ordered a dozen young apple trees an' planted 'em below the spring up in Eight Ball canyon. But they wuz too much alkali in the ground, an' them apples wuz so salty he couldn't eat 'em.

"Then Bill got another idea. He ordered some buds an' grafted 'em on the ironwood trees. About the third year it looked like he'd have a nice crop o' apples. They got big and red, and Bill did a lot o' talkin' about the apple pies and dumplin's he wuz gonna make.

"Then one night one o' the burros reared up on his hind legs and knocked one o' them apples off the tree and tried to eat it. Broke three teeth on the first bite. Guess they wuz too much iron, fer Bill couldn't bust one o' them apples with a sledge hammer. Finally sold his crop to one o' them rock collectors fer cuttin' material."

DESERT ARTISTS DISPLAY WORK AT ART GALLERY

Some of the desert's finest artists and craftsmen are currently participating in weekend exhibits of their work at the *Desert Magazine* art gallery.

Each weekend through March and April the gallery, located on Highway 111 in Palm Desert, California, is to be the scene of outstanding displays of desert artisans. Nationally-known artists John Hilton, James Swinnerton, Clyde Forsythe, Henry Clive, Conrad Buff and P. Stanlaws will be present from time to time during that period to give criticisms and suggestions.

WALLIS, GOOD GET POSTS AS LAKE MEAD NATURALISTS

O. L. Wallis and John Good have been appointed Park Naturalists for the Lake Mead National Recreation Area, Superintendent Charles A. Richey announced. The pair will teach desert lore through radio programs, guided trips and talks at the Boulder Beach Campground, Supt. Richey said.

Wallis has served as ranger-naturalist in Crater Lake and Yosemite National Parks and as a park ranger at Yosemite and Lake Mead. Good has been a tour guide at Carlsbad Caverns National Park and park ranger at Lake Mead.

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AMATEUR GEM CUTTER

By LELANDE QUICK, Editor of The Lapidary Journal

Some time ago we received a very provocative letter from Mildred B. Sanders of Mesilla Park, N. M., in which she asked the question, "when is it costume jewelry and when is it jewelry?" There is great room indeed for difference of opinion on this subject but it is our personal idea that all jewelry is costume jewelry for it is all designed to complement the costume of the wearer.

It is as difficult to arrive at a correct definition for costume jewelry as it is to distinguish between precious stones and semi-precious stones and it is our belief that any stone that can properly be classed as a gemstone is a precious stone. As a synonym for the word costly there are five stones accepted by the gem trade as being precious and they are the diamond, emerald, ruby, sapphire and the opal. Some authorities do not include the opal.

Our extensive library on jewelry books contains many that are very old and very valuable. In even a cursory examination of any one of these books the reader must be impressed with the fact that most of the

ancient jewelry pictured was set with stones that the present day rockhound and jewelry craftsman would scorn. Indeed most of the pieces were set or adorned with glass and paste and the glass would not compare in quality with contemporary glass. In the heyday of Rome the most sought after gem materials were amber and agate. Just as a Cadillac today is supposed to be some indication of a man's wealth, the Roman's prestige was enhanced only if he possessed an agate cup. But amber and agate today are not even regarded as semi-precious by many.

We remember about 15 years ago, when the rockhounds were first starting to make jewelry, and before the Easterners were doing much in the craft, people were inclined to refer to all amateur jewelry as "Indian jewelry." Fortunately this term has disappeared although we still see amateur jewelry referred to sometimes as "Indian type jewelry," for the amateur has indeed received a lot of inspiration from the highly original designs of our Indian craftsmen.

Our correspondent writes "while in a place of business one day I noticed a saleslady admiring a pin I wore, containing a stone I had cut myself. Having heard that I was a rockhound she was unable to make up her mind about the brooch and finally she asked me if the setting was a real gemstone or just a rock that I had cut. For the first time in my life I was at a complete loss for words.

"I have wondered if this attitude on the part of the public might be caused from our habit of placing our gems in cheap mountings. We have so many that we would like to wear and most of us cannot afford the kind of mountings our gems deserve. So we just stick them in any old thing in order that we may wear them and display our lapidary work. It burns me to have some one call my topaz, my sapphires, emeralds, peridots and garnets, costume jewelry in much the same tone of voice one would

use in discussing something picked up at the five and ten cent store."

Unfortunately, Mrs. Sanders, too much of the amateur stuff does look as if it came from the five and dime store and you are right about the urge to display it in any kind of a mounting, principally because the amateur cannot afford too many mountings in precious metals. It is our considered opinion that when a thing looks like quality it will be looked upon as having quality and being jewelry. To have that look it must have beauty and, as the poet has said, "beauty is in the eye of the beholder." Some people would even pass up a pair of gold earrings for an attractive set made of plastic because to them, their eyes behold more of self satisfying beauty in the plastic pair than in the gold pair.

We well remember one of the lines from one of the best motion pictures we ever saw: "The Little Shop Around The Corner." A girl was looking at a ring in a shop in Vienna and was entranced by its beauty. "Is it real silver?" she asked in awe. The proprietor replied "not at all, my dear. It is better than silver; it is chromium." Whereupon the girl was completely transported and left with the ring. Now that line received a big laugh from the audience but the psychology behind it has great application indeed to the problem being discussed.

And so the nearest definition we can give for costume jewelry is that, regardless of the value of the stones or the quality of workmanship, it is generally recognized in the trade that if the mounting is not made of precious metals (gold, platinum) it is classed as costume jewelry. We believe that is the popularly accepted idea although it does seem odd that a fine amethyst in a sterling silver ring is considered a costume piece while an 18 karat gold ring set with a piece of so-called black onyx (agate boiled in sugar) is regarded as jewelry.

The annual Gem Festival of the Glendale Lapidary and Gem Society will be held this year on May 14-15 at the Glendale Civic Auditorium. This society has an established tradition of friendly hospitality, which explains the fact that from eight to ten thousand people always attend their showings. Another thing that explains it is that they present a free exhibition with plenty of free parking. It has come to the point where many of the gem shows require the expenditure of from five to ten dollars for a man to take his family to some of them and pay the admission and park his car. The Glendale show is all free as usual.

This show too is usually more of a display of amateur lapidary and jewelry work than many others where private collections of "boughten" stuff are the publicized displays.

One of the highlights of the show will be the exhibition of more than a thousand cabochons made by Jane and De Witte Hagar of Manhattan Beach. The Hagars have been at it a long time and they have taught a countless number of amateurs how to cut gems, (including oneself) and at a time when information was very meager. Their cabochons probably include a greater variety of personally collected gem materials than most of the large collections.

Hagar was the second president of the Los Angeles Lapidary Society at a time when that society was the only one of its kind in existence and we have spent many pleasant hours with the Hagars in the collecting fields and the shop. Their display will contain many examples of the finest agates collected from Nipomo and Redondo in the days when fine material could still be obtained.

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GEMS and MINERALS

Rockhound Clubs Set Dates For 1955 Gem-Mineral Shows

The Southwest Mineralogists, Inc., of Los Angeles will hold its 18th Annual Mineral and Gem Exhibit at the Palestine Masonic Temple, the group has announced. Dates of the exhibit are April 16 and 17.

Gem and mineral festival for the East Bay (Oakland) Mineral Society will be held March 26 and 27, according to the Society's bulletin.

Spring rock show of the Tacoma, Washington, Agate Club will be held March 26 and 27 at the South Park Community Center, according to the *Puget Sounder*, monthly bulletin.

Dates for the 1955 show of the Montebello (Calif.) Mineral and Lapidary Society have been set for November 5 and 6 in the Montebello Moose Hall. Walt Nagele has been named show chairman, with Jack Schwartz as assistant chairman, according to the Society's bulletin *The Braggin' Rock*.

Third annual San Joaquin Valley Gem and Mineral Show will be held April 23 and 24 in the main exhibit building of the San Joaquin County Fairgrounds in Stockton, California. The show, sponsored by the Stockton Lapidary and Mineral Club and the Mother Lode Mineral Society of Modesto, anticipates a larger attendance than the 5000 persons who passed through the doors in 1954.

Annual spring show of the Wichita, Kansas, Gem and Mineral Society will be held Saturday and Sunday, April 23 and 24. The group also reports in its bulletin *Quarry Quips* that complete files of the *Lapidary Journal* and *Desert Magazine* are being permanently bound for its library.

Joint convention of the Rocky Mountain Federation of Mineral Societies, Wyoming State Mineral and Gem Society and Rawlins Rockhounds Mineral and Gem Club will be held June 16-19 at Rawlins, Wyoming. Ralph Platt, Saratoga, Wyoming, is general chairman of the convention.

The Yakima, Washington, Rock and Mineral Club will host the Northwest Federation Convention of Mineralogical Societies on September 2, 3 and 4, the club has announced. The convention will be held at the Central Washington Fairgrounds, Yakima.

The Coos County Mineral and Gem Club of North Bend, Oregon, will present its annual Rock Show, April 30 and May 1, in the Community Building, North Bend. Feature of the show will be field trips taken to the beaches for agates and petrified wood.

Annual exhibit of the Minnesota Mineral Club will be held on Sunday, April 17, at Coffman Memorial Union at the University of Minnesota. Display will cover lapidary work, mineralogy, paleontology and rocks. In 1954 some 14,000 persons visited the show during its eight-hour period.

November 5 and 6, 1955, are the dates chosen by the Sacramento Mineral Society, California, for its annual show. The show will be held at Turn Verin Hall, Sacramento.

Third annual Southern Oregon Gem and Mineral Show will be held June 18 and 19, according to the sponsoring Roxy Ann Gem and Mineral Club of Medford, Oregon. A slide show of rock transparencies will be projected during the show.

A 4000 carat aquamarine blue precious topaz crystal will be the feature attraction of the May 14 and 15 Gemfestival of the Glendale, California, Lapidary and Gem Society, according to show chairman Grant Ostergard. The topaz, loaned to the group by Kazanjian Brothers of Los Angeles, has never been shown before.

Brawley, California, Gem and Mineral Society's annual Rock Show and Trade Days will be held in the beautiful Brawley Plaza Park from April 20 to May 1. The Brawley Chamber of Commerce is cooperating in sponsoring the show. On Sunday, May 1, a guided field trip into old Mexico will be taken.

New officers of the San Diego Mineral and Gem Society for 1955 were announced in the group's bulletin. They are: Dr. Paul White, president; Ed H. Carroll, vice-president; Mrs. George L. Ritchie, recording secretary; Martha R. White, corresponding secretary; and Edmund Herzig, treasurer.

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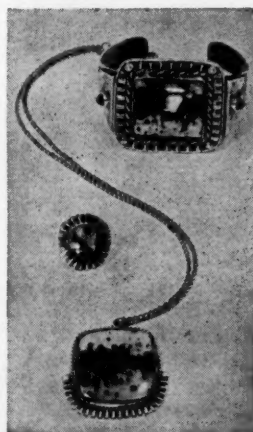
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GENUINE TURQUOISE: Natural color, blue and bluish green, cut and polished cabochons — 25 carats (5 to 10 stones according to size) \$3.00 including tax, postpaid in U.S.A. Package 50 carats (10 to 20 cabochons) \$6.15 including tax, postpaid in U.S.A. Elliott Gem & Mineral Shop, 235 E. Seaside Blvd., Long Beach 2, California.

GEMS A-PLenty: Beautiful baroque gems, large variety, tumble polished all over, \$10.00 for one pound (about 100 stones). 10 lbs. of top grade gemstone prepaid for \$7.00. Wholesale price to dealers on baroque gems and gemstone in the rough. Satisfaction guaranteed on every sale. San Fernando Valley Gem Co., 5905 Kester Ave., Van Nuys, Calif.

COLORADO MINERAL specimens, cutting and tumbling materials. Send 2 cent stamp for list and terms. Dealers please write for wholesale list. John Patrick, Idaho Springs, Colorado.

McSHAN'S GEM SHOP—open part time, or find us by directions on door. Cholla cactus wood a specialty, write for prices. 1 mile west on U. S. 66, Needles, California, Box 22.

BEAUTIFUL FREE GOLD — Specimens \$1.00 each. Return if not satisfied. Prices to dealers. J. N. Reed, Box 102, Cabazon, California.

QUARTZ CRYSTAL GEODES (Kentucky Diamonds). These geodes range from 2" to 8" diameter. Showy xls. Masses clear to white, some phantoms. Selected specimens from broken geodes \$2.50 lb. Unopened geodes \$1.50 lb. Dealers write for wholesale rates. Midwest Mineral Mart, R. B. Boies, P. O. Box 391, Hamilton, Ohio. We trade for Western minerals.

HAVING SOLD my "Trailer Court," I am out of the rock business until further notice. P. G. Nichols, 3922 N. Oracle Rd., Tucson, Arizona.

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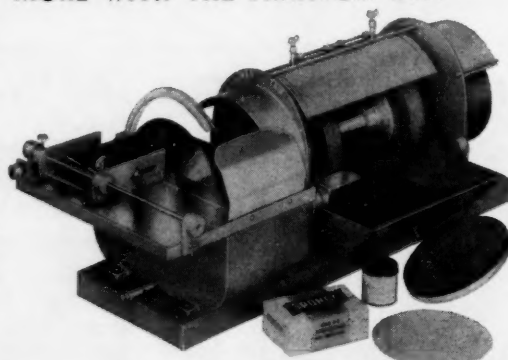
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DIAMONDS MADE BY LABORATORY SCIENTISTS

Artificial diamonds have been produced in the laboratory and are indistinguishable from the real thing. But the diamond market is not due for a tumble—the man-made variety costs at least twice as much as natural diamonds.

Importance of the discovery, which was announced by the General Electric Research Laboratory, is in industry and national defense. Hundreds of pounds of diamonds are imported each year to cut steel, dig through rock, make precision tools and scores of other jobs. War or blockade could not now cut off the U.S. diamond supply.

In the laboratory, a carbon-containing material is subjected to pressure and heat equal to that 240 miles deep within the earth. The result is a perfect diamond that will scratch natural diamonds, has the X-ray "fingerprints" of the natural diamond and meets the same chemical tests.

Largest diamond produced artificially to date measures only 1/16 of an inch in its longest dimension, weighing a fraction of a carat. *Phoenix Gazette*

The Gem County Rock and Mineral Society, Emmett, Idaho, has announced its officers for 1955. J. A. Monroe has been elected president, with Mrs. Esther Palmer, vice-president, Mrs. Zella Kent, secretary and Mrs. Grace Monroe, treasurer. Historians are Mr. and Mrs. A. R. Albee and E. C. Brookins, while other officers include: publicity, Mrs. Cora Holman; ways and means, Earl Kent, E. C. Brookins and A. H. Holman; program, Mrs. Alice Brookins, Mrs. Myrtle Albee and Mrs. Cora Holman; field marshal, Mrs. Earl Kent.

CALLED TO PHONE. FIRE RUINS HOBBY

Never leave your saw unattended, is what George Tippie, of the Old Baldy, California, Lapidary Society, learned when his entire 15 years' collection of finished rocks was ruined in a fire recently. Called to the telephone while sawing a rock with his diamond saw, the fire was said to have started at that point, destroying the shop, tools and irreplaceable rocks.

But when members of the Old Baldy Lapidary Society learned of Tippie's plight, a surprise was in store for the unfortunate collector. The Tippiess almost stayed home from the club's next rock exchange meeting for lack of a polished piece to take to the exchange. In true rockhound spirit the meeting turned out to be a shower of cabochons, jewelry, big polished wood flats, crystals and spheres for them.

The Tippiess are back in the rock hobby again!

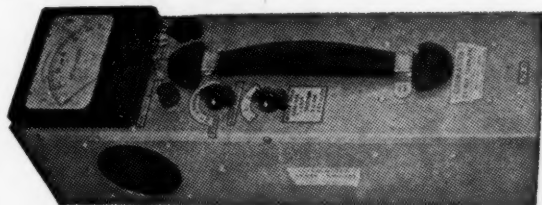
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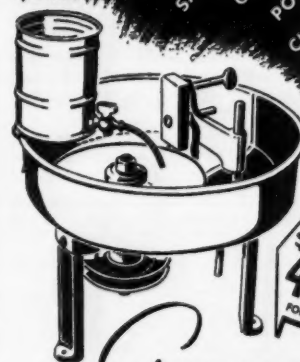
Sweet Home, Oregon

Don Wells was elected president of the Lapidary Club of Vancouver, British Columbia, at a recent meeting. Jack Clarke was elected vice-president, with Miss Evelyn Major, secretary, Mrs. Manzanita Mearns, corresponding secretary, and Gordon Craig, treasurer. The group also reported in its monthly bulletin that New Westminster and Kamloops, British Columbia, had formed new lapidary clubs.

Newly elected to take office in March for the Old Baldy Lapidary Society, California, are President J. D. Rittenhouse, Vice-president O. V. Allen and re-elected Secretary-treasurer Catherine Rittenhouse.

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ACCURATE ORE DISCOVERY METHODS BEING RESEARCHED

"Better methods of discovering new ore deposits with which to restock the nation's dwindling metal supplies will result from geochemical research now under way at Northwestern University.

"Arthur L. Howland, associate professor of geology and chairman of the department, and Robert Garrels, assistant professor, are conducting studies in crystallization which will assist field geologists in locating still undiscovered ore deposits by indicating the manner in which such deposits were formed millions of years ago.

"With the aid of an apparatus which they have developed, the scientists are attempting to duplicate, under laboratory-controlled conditions, the natural processes by which crystals are replaced by chemicals carried in moving waters, or are dissolved and carried away, to be deposited elsewhere, either in fissures in the earth's surface, with resultant lode formations, or as replacement in woody materials.

"A knowledge of the kinds of rocks that are replaced and the kinds of solutions which replace them will aid the geologist in picking probable ore sites."

From the *Science Digest*. (as reprinted in the bulletin of The Hollywood Lapidary and Mineral Society, California.)

THE PROSPECTOR'S CATALOG

We are pleased to announce the advent of a new *Minerals Unlimited Catalog*, specifically designed for the amateur or professional prospector. If you are interested in Geiger Counters, Mineralights, Blowpipe Sets, Gold Pan or any of the other equipment necessary to a field or prospecting trip, send 5c in stamps or coin for your copy.

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MOUNTING MINERALS WILL KEEP STOCK TRIMMED

"A mineral specimen seldom need be more than one inch square. Color, form, crystal structure, in most cases, is just as evident at this size and it is only when the mineral takes some unusual massive form that large specimens are necessary.

"The smaller size, however, can possibly be lost and therefore should be mounted. The small specimens can be set in a two foot by two foot block of styrofoam, one-half inch thick. The stone is pressed down into the foam and secured with airplane cement, then labeled with the mineral's name and place where it was found.

From the *Rock Rustler's News*, publication of the Minnesota Mineral Club.

According to Mary Frances Berkholz, a number of popular California collecting areas now are temporarily closed to rockhounds. Among the restricted sites are Horse Canyon, the Bullion Mountains, Death Valley onyx deposit, Rose Quartz deposits in the Greenhorn Mountains, Livingston Quarry and the Mt. Tule asteriated quartz field.

New officers of the Compton, California, Gem and Mineral Club were elected at a recent meeting. Elected for 1955 are Marge Wakeman, president, Ed Wilson, vice-president, Thelma Yandell, recording secretary, Rose Nelson, corresponding secretary, George Leach, treasurer, Merlyn Heddon, librarian, and Mayrose Backus, historian. The group has chosen "Holidays in Gems" as the theme for a special display at the 1955 show.

SUGGESTIONS FOR FIELD TRIPPERS

From the *Rockhound's Call* monthly bulletin of the Compton Gem & Mineral Club of Compton, California.

A few hints to the new rockhounds from oldtimers might be of help. Camping equipment deserves good care. A level campsite, without sharp rocks or holes is the best place to erect a tent. An extra piece of canvas over the floor of the tent will help to keep cot legs from punching holes. It is also easier to clean up.

If you are camping in a windy area (such as Last Chance Canyon) be sure to collapse tent before leaving. The gusty desert winds may break poles or tear tent fabric. There is not much rain in the desert, but if it does rain, remember to loosen guy ropes to allow for shrinkage. Never store a tent, sleeping bag, or blankets when wet. Mildew can rot canvas. Check your equipment before storing and make repairs then. Be sure to check sleeping bags and blankets stored in garage or attic for spiders before climbing in for the night.

When at the campsite do not drink water except from clear running streams. Alkali present in most desert water, while not fatal, is unpleasant. A water supply on the desert camping trip is a must. Do not dig your way under an embankment no matter how good the material may be, it could give away and bury you.

When approaching the edge of a cliff or high bank test the edge with a stick or pole. While the surface soil may be dry it could be under mined. Do not leave your campfire burning even in the desert. The desert wind can scatter the sparks for miles to ignite the underbrush. Forest fires are started by careless campers and hunters. Be sure they don't add Rockhounds to that list.

Be careful where you place your hands and feet in snake country. Wear boots if possible and always be alert. Stay on known roads unless following club markers. Drive with caution. If you get stuck in the sand don't race your engine. Increase the tread of your tires by releasing some of the air. Break up some brush for a footing under the wheels. If you become lost stick to the road; do not head off across country. And most important of all, if you wish to go on camping and hunting for a hobby, clean up your camp. Leave it the way you would wish to find it.

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FINDING URANIUM THROUGH PLANTS

Now you can go out in the back country, find a certain bush and say, "Dig under here and you'll find uranium." This might sound fantastic, but it can be done.

The University of Arizona is at present, making a study to determine the value of locating uranium by plants. The roots of some plants extend down into the ground from 10 to 100 feet. These roots carry traces of uranium to the leaves. By testing the leaves it is sometimes possible to determine the presence, the amount, and the approximate depth of the uranium.

The procedure used in these tests is as follows: The leaf, bark or wood of the plant is burned. The ash that remains, is powdered and placed in a shallow metal disc. This ash is then tested for radioactivity by an alpha scintillation counter. The number of counts recorded per minute determine the strength of the uranium.

If a deposit appears to be found, tests on the plants can indicate the outline, depth and richness. The most accurate method to determine the extent of a deposit is by a series of core drillings. The next best method, and the cheapest, is by testing the plants.

Although cheaper than core drilling, the taking of tests on plants can be quite costly. It is estimated that 200 tests, at about \$5 per test, would be needed for a 10 acre plot.

Finding uranium by plants will not take the place of a geiger counter, but it still gives a person another method to use, so—next time you go prospecting, remember the saying, "a bush in the hand, may be worth a million dollars in uranium."

(From *Shop Notes and News*, monthly bulletin of the San Diego, California, Lapidary Society, article by Ed Bohe, C.G.)

REPAIRING TRILOBITES FOR READY DISPLAY

Trilobites—Paleozoic marine arthropods of one to two inches and larger—are rare and expensive fossils, but Harry E. Nelson, of the Earth Science Club of Northern Illinois, found a way to produce complete fossils inexpensively for the study of his junior high school science class pupils.

The problem was that complete fossils are rare, but broken pieces are plentiful.

"I had noticed that the shape of trilobites was very uniform. If two of these creatures were about the same length they would also be about the same width. There seemed to be no reason why the tail of one such trilobite could not be joined to the head end of a like creature, even though they were different individuals.

"So I took my diamond trim saw and cut squarely across the tail part of one trilobite and in the same manner across the head end of another. I joined the two with the aid of a drop of testor's cement. The ugly gap where the joint was made I covered with plaster of Paris. I next took an ice pick and engraved transverse ridges in the plaster to correspond with the natural ridges on the back of the trilobite. The last step was to mix yellow and black Tempora paint until the exact shade of the natural color of the trilobite was found. This was brushed onto the plaster union.

"The result was a crustacean ancestor which defied all but close inspection—I offered them for sale at 25 cents each. In some cases I made double grafts. It is possible, of course, that I joined the head of Uncle Joe to the body of Aunt Suzie, to the tail of Cousin Pete, but I assured the children they were getting a genuine *Calymenus niagans* from the old Silurian Sea, a body of water that covered northern Illinois some four hundred million years ago."

Condensed from the *Earth Science News*, bulletin of the Earth Science Club of Northern Illinois.

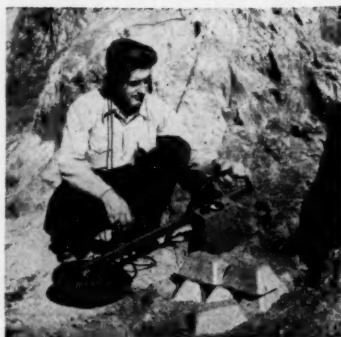
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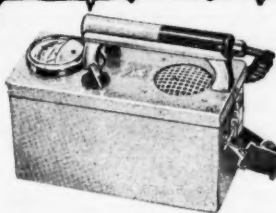
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M12 MINERALIGHT—Lightest, most compact field unit available. Built-in flashlight with 2-way switch for white or ultraviolet. Pure fused quartz tube. Weighs only 3 1/4 lbs. **\$39.75**

M12 BATTERIES for above, 6V, lantern type **90c**

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½" to ¾" Baroques, 5 for \$1.00
Please add 10% Federal tax and postage
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SILVER ONYX FIELD IS CLAIMED FOR ROCKHOUNDS

Rare silver onyx fields of the Calico Mountains, California, have been claimed for use of rockhounds by George Dotson of the Calico Ghost Town Assay Office and Rock Shop and Calico Fred Noller, manager of Calico Restoration project, the pair have announced.

One source of the silver onyx, or Calico Mountains travertine, has been under claim for many years, according to Dotson, and is now closed to the public because of a commercial mining operation. However, this same material can be found on the north side of Calico Mountain which Dotson and Noller have claimed. The field

lies about two and a half miles by road from Calico Ghost Town, with exact instructions and permission to trespass available at the Assay Office in Calico.

INDIANA DIAMONDS NOW NUMBER TEN

Glenn A. Black, of the Evansville, Indiana, Lapidary Society, tells in a recent issue of the Society's News Letter of the ten diamonds located in Indiana.

"One stone was found by a farmer in a field near Peru, which is in Miami County, in northern Indiana. It had been associated with glacier deposited gravels and weighed 3.93 carats. It was the largest stone a friend of mine had ever seen from Indiana. I also believe it was the only one from so far north in the state. It measured 14 by 9 by 3.2 mm. This was the 10th diamond found in Indiana which had come to my friend's attention.

"The other nine were: 3.06 carats rough, cut to a shallow marquise brilliant of 1.33 carats; one of 3.64 carats rough; a tiny dodecahedron; a 2.5 carat cut stone, rough weight unknown; a pair of matched brilliants of approximately .87 carats from unknown rough weight; 1.05 carat stone in the rough; and three stones of 1.25, .625 and .75 carats, found by a Dr. Kelso of Mooresville in Morgan County.

"Most of these stones apparently came from either Morgan or Brown Counties, probably they all did. They were, of course, associated with the glacial drift so plentiful in that part of Indiana. They had been carried there from the north but where the pipe from which they were gouged by ice was located, is as yet unknown—probably in the Hudson Bay area."

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100 grit	\$2.65	\$3.60	\$5.35	7.50	\$11.35
220 grit	2.95	3.95	5.90	8.25	12.50
320 grit	3.35	4.50	6.70	9.40	14.20
Shipping weight	2 lbs.	3 lbs.	5 lbs.	6 lbs.	9 lbs.

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80, 100, 120, 18, 220	\$.83	\$.52	\$.39	\$.30
2F (320), 3F (400)	.38	.57	.41	.32
Graded 400	1.09	.73	.57	.48
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Mineral names come to us from many sources—proper names, descriptive names from other languages. Whatever language a mineral name comes from, it is an English word and deserves an English pronunciation.

Professor Kiril Spiroff of the Michigan School of Mines was once asked, "How do you pronounce 'BOH-zite'?" He replied somewhat aggressively: "BAUKS-ite!" The mineral was named for the French locality of Baux. A Frenchman would be right in calling it boh-zite and some dictionaries call it boh-zite, but all mineralogists say "BAUKS-ite."

Domeykite is another name mispronounced. It comes from the name of a Chilean mineralogist, Domeyko, and the dictionary says "Do-MAY-kite." There is no phonetic reason why these two names should not be given the pronunciations of their original languages for all of their sounds can be rendered in English.

The rockhound usually stumbles when he goes after certain names that have come to us from the German. If you are German, all right. The rockhound is never worried about pronouncing the name of the poet, Goethe. Where he really hams it up is when he tries to get German with the word "Goethite," named for the poet. There being no English equivalent for the German "o" he comes as near to it as he can with the sound of er as in "her." He doesn't quite make it, and he goes on and pronounces th as in "thin" which is out of bounds for the German. "Gerthite" is neither English nor German, fish nor fowl. Dictionaries and encyclopedias insist on the German quality to vowel and consonant.

The encyclopedia wants the German value in "Loess," but some dictionaries allow it "LO-ess."

Condensed from an article by Bertha C. Minardi in *The Nebraska Rockhound's Rear Trunk*, bulletin of the Nebraska Mineral and Gem Club.

ARIZONA URANIUM BOOM IS STILL GOING STRONG

The small uranium boom started in Arizona in mid-1954 when prospectors and AEC men were so thick a person could hardly elbow his way through.

So said Jackson L. Clark, state mineralogist in the Arizona Bureau of Mines, as he spoke recently to the Mineralogical Society of Arizona.

"Until that time, no one knew there was any uranium in Arizona, except in its portion of the Colorado Plateau," Clark explained. "Yellow, green and black are the predominating colors to look for in uranium-bearing minerals of this area. Look on old dumps of other mines, since uranium occurs with other base metals and in pegmatites."

Clark said the uranium minerals of Arizona have been found in massive quartzite, kasolite, polycrase, dark purple fluorite, altered zircons and rare earth minerals. The uranium minerals found were uraninite, meta-torbernite and carnotite.

(From the Mineralogical Society of Arizona bulletin.)



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NON-METALLICS TO BRING NEW WEALTH INTO WORLD

Non-metallic minerals will bring "such wealth as the world has never known."

This is the prediction of Dr. William R. Ross, president of Colorado State College of Education. Fundamental economics requires that there be a balance between metallic and non-metallic minerals, he explained, and metallics have already brought much wealth.

"Now, the non-metallic minerals will bring such wealth as we never have known," said Dr. Ross. "All over the earth, people will be fed and clothed and sheltered as they never have been before. The good life will prevail everywhere."

"When that time comes, there will be no need of war. All the world will enjoy the good life . . . and there will be no cause for envy between nations."

Dr. Ross listed feldspar, silica and lepidolite among the active non-metallic minerals. *Mining Record*

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SCIENCE USES INDIRECT METHODS TO FIND ORE

By indirect methods, geophysicists can locate magnetic bodies under the earth's surface, charting the width and depth, and even tell what the substance may be.

Members of the Gem and Mineral Society of San Mateo County, California, learned of methods of geophysical exploration from Gordon Bath, of the U.S. Geological Survey, at a recent meeting of the group.

Direct methods of exploration, they learned, such as with Geiger counter or scintillator, record by contrast with surrounding rocks, but cannot detect more than a foot in depth. By indirect methods, such as gravity instruments, the position, depth and amplitude of curve may describe the subterranean body.

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By RANDALL HENDERSON

THERE'S A REFRESHING bit of news for those who are dismayed by the accumulation of litter along California's fine highways. The California Assembly now in session passed the following resolution:

"Whereas, It appears that a vigorous law enforcement program would greatly assist in combating this menace to public health and safety; now therefore, be it resolved by the Assembly of the State of California, that the California Highway Patrol is hereby requested to take every step and to use every means at its disposal in developing and executing a vigorous law enforcement program against the littering of highways and roadsides in the state . . ."

A letter from Commissioner Bernard R. Caldwell of the Patrol states that directives are now in preparation which will put in force the legislative mandate. Also, an amendment to the Vehicle Code is now before the Legislature which will make it unlawful to throw any substance upon the public highway. "This law, if adopted," comments Commissioner Caldwell, "will provide the enforcement officer with a much improved working tool."

Law enforcement and education! It is an effective team. Rigid enforcement is the duty of the police. The educational part of the program is my responsibility and yours. I have friends who are so conscientious they will not even toss a chewing gum wrapper out the car window. The laws and the police are not needed for them. Unfortunately, not all humans are that thoughtful.

The basic contribution of both Christianity and Democratic government to progress, is freedom and dignity for the individual. But neither Christianity nor Democracy can give dignity to a human being who has not the capacity for dignity. And so the cops are an essential part of the team.

Under pressure from certain sportsmen's groups, a bill has been introduced in the current session of the California senate which would permit hunting in the state parks.

I cannot believe that the legislators will enact such a measure, for hunting in the park areas would be in direct violation of the basic concept of the public park systems. That concept is well defined in the words of the original act which established the national park system:

"To conserve the scenery and the natural and historic objects and the wildlife therein, and to provide for the enjoyment of the same and by such means as will leave them unimpaired for the enjoyment of future generations."

State and national parks are a sanctuary for wildlife as well as for human life—and the licensing of hunting

within their boundaries would jeopardize both. When a troop of Boy Scouts or a class of school youngsters goes into the park area for a day's outing they scatter through the timber or rocks like rabbits. That is the normal thing for them to do—and the parks have always been a place where they could follow their urge to explore in comparative security. Men with loaded guns and a license to shoot in such areas would destroy all that.

My generation was taught that the parks—both state and national—were to be conserved as areas of unspoiled natural beauty — retreats where Americans could find peace and inspiration. It was a fine concept, but it is being threatened today by pressure groups from many directions—the cattle industry wants grazing rights in it, the timbermen want to cut down the trees, the miners want to despoil the land in their quest for minerals, power interests would build reservoirs that would completely change the character of the landscape, the concessionnaires would clutter up the areas with Coney Island commercial enterprises—and now the hunters are asking for privileges which would make the lands unsafe for humans or wildlife.

Your problem and mine, if we would preserve these parks for the purposes for which they were set aside, is to resist any and all of these commercial invaders. Altogether the area in parks comprises only a tiny fraction of one percent of Uncle Sam's big domain. Wouldn't it be a worthy thing to be able to pass on to our children a few small areas of natural wilderness as our American forefathers found them?

* * *

As this is written, early in March, the feel of desert spring has come to our bajada at the base of the Santa Rosas. Mesquite and cottonwood are putting out new foliage, the dunes and mesas are covered with green sprouts, and the linnets which raised a brood in the rafters over our patio last year, have returned and are building a new nest.

Spring is late this year, due to rains and abnormally cold weather in January and February—but those rains have given the promise of an unusually colorful wildflower display.

Desert sand is not as sterile as it appears. Give it water and sunshine and it sends forth a luxurious carpet of plants and shrubs. Infiltrated with a generous portion of peat moss or leaf mold it responds amazingly in the production of domestic flowers and vegetables and shrubs.

When the radio brings a babble of man-made troubles — armed strife, human delinquency, intolerance and greed—Cyria and I turn it off and go out and work in our garden. It is fine tonic for these days of confusion and distrust.

BOOKS of the SOUTHWEST

BASKET WEAVING STILL AN ART AMONG TRIBESMEN

Eight groups of Indians in Arizona are engaged actively in the weaving of beautiful baskets — and the *Basket Weavers of Arizona* is both a tribute to them and the man who wrote it—Bert Robinson, authority on Southwestern Indian Basket weaving and until 1951 actively engaged in Indian affairs.

Baskets of this Arizona group are not surpassed anywhere in Indian country. No patterns are drawn; the picture of the pattern is carried in the mind. Among the Chemehuevis, the designs belong to the weaver who originated it. The Papago tribe uses no dye in the making of baskets, but is highly individual in the use of the saguaro, turtle and bird figure designs. Hopi baskets are known for color, yet there is no similarity between those of the Second Mesa, where only four colors are used, and those of the Third Mesa, where brilliancy is obtained from blending of dyes. The Hopi groom keeps his basket from the wedding ceremony till he dies; then it is buried with him. Among the older type of Pima baskets, now discontinued, the largest of their storage baskets would hold 40 to 50 bushels of wheat. In the changes in their craft, the Indian weavers are only following the competitive trend of civilization of which they are a part.

Rich color photographs and 73 black and white illustrations, taken either in the homes of Indians or the locations mentioned, show vividly the types, shapes and manner of basket weaving.

Each chapter on tribal weaving is prefaced by an interesting background of the history and customs of the Indian. A map, showing the locations of the basket-weaving tribes, is included.

Published by the University of New Mexico Press. 164 pages. \$7.50.

STORIES, POEMS, SONGS OF DEATH VALLEY

Written by Lee Early and "Aim" Morhardt, who would rather "make 50 cents at mining than 10 dollars selling someone something," *Western Men and Desert Gold* is a collection of true tales, songs and poems of the Death Valley region.

Handy pocket size, this booklet is good reading while on the desert or at home. Included are nine poems of the desert and three songs (with notes),

among them "For We're the Old Timers Who Never Came Back." The reader will enjoy the true ring of the stories: "The Rosebush," for one, covers the mining experiences of a couple, from Barstow to Austin, Nevada, to Tonopah, mentioning the "robbing of a pillar" in old-time mining. The authors are familiar with it all, having lived, worked and mined on the desert, listening all the while to the tales of the old-timers.

Paper bound, 44 pages, published 1954; available at Desert Crafts Shop, Palm Desert, or from the authors at Bishop, California. \$1.00.

MINERALS AND ROCKS EXPLAINED TO BEGINNERS

Often a bookseller will receive a query: "I'm just becoming interested in rocks and minerals. Can you recommend a book that will explain right from the start how I can begin my hobby of collecting them?"

Richard M. Pearl, assistant professor of geology at Colorado College, Colorado Springs, Colorado, has written a book designed for just such an individual. In *How to Know the Minerals and Rocks*, Author Pearl explains the fundamentals of the mineral hobby, defining the terms which one would meet in starting the hobby, and explaining the difference between rocks and minerals.

A brief lesson in geology is included, describing how rocks and minerals are formed. But the beginning rockhound is most interested in how to recognize the various minerals and for this purpose *How to Know the Minerals and Rocks* becomes a handy field book. The author describes the seven basic points which should be studied in identifying minerals — luster, hardness, color, streak, cleavage, fracture, and specific gravity—then offers a guide to more than 125 of the most important minerals and rocks, including gems, ores, native metals, meteorites, and others. A full page is given to the description of each mineral or rock, covering its physical properties and giving interesting background data.

Eight pages of the book are devoted to color illustrations of 46 minerals—a further aid to identifying some of those in the text.

Published by McGraw-Hill Book Company, Inc., 192 pages, illustrated in color photographs and black and white line drawings, \$3.50.

Books reviewed on this page are available at Desert Crafts Shop, Palm Desert

MISSION SAN XAVIER DEL BAC IN PICTURES

Mission San Xavier del Bac stands strikingly alone in the desert, nine miles from Tucson, Arizona. This pictorial book, *Mission San Xavier del Bac*, presents its beauty in color and black-and-white photographs by Ansel Adams, internationally known photographer. Nancy Newhall tells the poignant story and Edith Hamlin has added four key drawings to complete the history of one of America's most impressive shrines.

This history is followed from 1688 when Jesuit Father Kino first came and founded a mission. Then came Fray Garces, the first Franciscan and later, in 1783, the actual work was begun by the Papago Indians and the Franciscans.

Today, Mission San Xavier del Bac is a shrine not only to the Papago Indians and the Franciscans, but to the many, of all creeds, who visit it each year.

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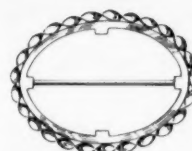
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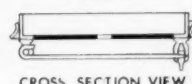


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